

Kentucky Department for Natural Resources *Annual Report 2010*

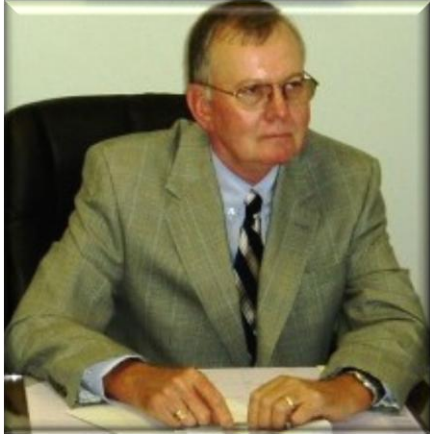


Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Natural Resources

<http://dnr.ky.gov>



Letter from the Commissioner



The Department for Natural Resources is one of the largest departments in Kentucky state government. It is comprised of nine divisions with a staff complement of over 825 full-time employees and, for at least six months of each year, increased by another additional 100 part-time employees. The agency is also highly diversified in the scope of its management responsibility. Programs for which it is accountable are: surface and underground coal mine permitting and enforcement, forestry, agricultural conservation, mine safety, oil and gas, and restoration of abandoned mine lands. The overall budget for the agency exceeds \$124 million, placing a significant fiduciary responsibility on the entire management staff to ensure that all funds are efficiently managed.

This is the first comprehensive annual report issued by the Department for Natural Resources and includes information from all the agencies within the department. The report will provide clear and factual information to keep interested citizens well informed on the status of the natural resources of the Commonwealth and provide a baseline by which citizens can track future trends.

This has been a demanding year for Department employees who have dealt with the ramifications of several high-impact budget reductions; smaller staffs due to these cuts coupled with employee retirements; while also seeing their daily duties expanded by legislative or administrative actions. In this report, I have made every effort to reflect the high professionalism and dedication observed in the performance of each of the department's employees, and by doing so, thank them for their diligence and stewardship of the Commonwealth's natural resources.

Please enjoy this informative report and reflect on the many ways the Commonwealth's natural resources impact your own life and how developing trends could impact you in the future.

Sincerely,
Carl E. Campbell,
Commissioner

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Executive Summary

The Department for Natural Resources (DNR) is a highly diversified agency overseeing many different aspects of Kentucky's natural resources. The programs range from administering the surface coal mining regulatory program, protecting and enhancing the forest resources, ensuring the safety of the coal miners of the Commonwealth, administering the Commonwealth's oil and gas program, reclaiming abandoned mine lands, preserving unique heritage land properties, and providing leadership in agricultural conservation. The mission of the varied programs of the department ensures the natural resources of the Commonwealth are protected, conserved and enhanced. Listed below are some of the notable achievements for Fiscal Year 2010.

Notable Achievements:

- Significant improvement was made in reducing the number of delinquent coal mine permit applications from a high of 170 delinquencies in October 2009 to 95 at the end of fiscal year 2010. Leadership, focused training, and improved staffing contributed to this substantial reduction.
- The Kentucky Division of Forestry completed and submitted to the U.S. Forest Service June 2010 *Kentucky Statewide Assessment of Forest Resources and Strategy: A Comprehensive Analysis and Plan for Action*. This action plan, developed after detailed input from a variety of public and governmental sources provides the foundation for executing Kentucky's forest program for the next five years.
- A collaborative effort by state regulators, coal industry representatives, and members of the General Assembly resulted in the modernization of permit fees for surface coal mines. Not changed since 1982, the fees were updated with the passage of House Bill 283 in the 2010 Legislative Session.
- 19,889.7 acres (571 individual contracts) were incorporated into the Green River Conservation Reserve Enhancement Program (CREP), a program enhancing conservation practices within the Green River region as part of the federal/state initiative to protect this ecological sensitive watershed. These latest acquisitions brought the cumulative total acreage to 101,303.4, successfully achieving the stated initial goal of protecting 100,000 acres.
- The Office of Mine Safety Licensing (OMSL) successfully met a mandate by the Mine Safety and Health Administration (MSHA) to complete annual visits to the all underground mines for which OMSL teams provide signature mine rescue team coverage. A collaborative effort between the Kentucky General Assembly and the administration was effective in providing adequate funding for this initiative.
- The Division of Mine Permits, with funding from both the Office of Surface Mining Reclamation and Enforcement (OSM) and the Environmental Protection Agency (EPA), developed a new *Cumulative Hydrologic Impact Assessment* (CHIA) protocol used in assessing the impact of coal mining on Kentucky's watersheds. Concurrently, the identification and ground "truthing" of 237 trend stations in the eastern Kentucky coalfield and 37 trend stations in the western Kentucky coalfield are underway. From

these stations water samples will be taken, analyzed, and incorporated into a data base utilized by both industry and regulators.

- A technical study group comprised of governmental regulators, industry representatives, and environmental groups completed the development of the *Fill Placement Optimization Process* (FPOP), a design protocol created to analyze excess spoil fill construction to minimize the impact on streams from mining operations while maintaining Approximate Original Contour (AOC). A significant step forward in stream protection, the process has been recognized and used as a national model.
- Promoted to streamline surface mine coal permit applications to improve processing time, significant success has been achieved in developing an electronic permitting program for use by the coal industry and regulators. As of June, 60.45 percent of permits submitted to the Division of Mine Permits were submitted electronically, greatly enhancing the efficiency of both the permit reviewer and the engineer consultant working for the coal company.
- Responding to a series of dangerous coal flyrock events, the Division of Mine Reclamation and Enforcement implemented a new policy that could result in the suspension or revocation of licenses for the blaster or blasting company involved in the incident. This new focus resulted in a major decrease in the number of blasting flyrock events, thus significantly improving the safety of mining operations.
- The Division of Forestry obtained two new land acquisitions, increasing the number of state-managed forests to eight incorporating 40,931 acres. The *Marion County Wildlife Management Area and State Forest* and the *Rolleigh Peterson Educational Forest* were purchased using grants from the Heritage Land Conservation Fund.
- The Division of Abandoned Mine Lands reclaimed 507 acres of mined lands where insufficient reclamation or abandonment by the mining company resulted in significant environmental degradation. In addition, AML conducted final inspections on nine waterline projects with 82.32 miles of waterlines installed and serving approximately 1,068 residences.
- The Division of Oil and Gas submitted to the EPA's Region 4 office a request for Kentucky to assume primacy of the regulation of the Underground Injection Control Program. If approved, this initiative would streamline the process for oil and gas operators who develop and operate Class II wells to work with only the state agency for all permit and enforcement actions.
- The Heritage Land Conservation Fund was responsible for conserving, in whole or in part, 2,805 acres in six different counties.
- Dr. Richard Wahrer, environmental scientist, received national recognition for his participation in and support of the development of the "*Guidelines for the Development of Protection and Enhancement Plans for the Indiana Bat*," in cooperation of the U.S. Fish and Wildlife Service (FWS) and the Kentucky Department of Fish and Wildlife Resources. This policy established national guidelines and protocols for the protection of this endangered species.

- The 2009 Appalachian Regional Reforestation Initiative Conference in Prestonsburg, hosted and coordinated by DNR staff, brought representatives from multiple states together to discuss the reforestation of mine sites in the Appalachian mountain range.
- Confronting the problem of consistent flooding in the city of McKee, the Pigeon Roost Floodwater Retarding Structure was completed in Jackson County utilizing funds obtained from the Natural Resource Conservation Service (NRCS), U. S. Department of Agriculture. Coordinated through the Division of Conservation, this project was the 199th watershed dam constructed by the NRCS in Kentucky.
- The Division of Forestry, operating two nurseries in the Commonwealth, sold 2.11 million tree seedlings for use in important reforestation projects throughout the state while generating \$550,000 in revenue for the division.
- The Division of Abandoned Mine Lands published the *Abandoned Mine Lands Homeowner and Development Guide* for residents, landowners, developers, and state and local officials located in the Kentucky coal fields to inform them of the hazards of building and developing on or near abandoned mine lands.
- Division of Abandoned Mine Lands Director Steve Hohmann was the recipient of the *2009 Stan Barnard Memorial Award*, the highest honor given by the National Association of Abandoned Mine Land Programs. It is presented annually to the individual whose actions produced the greatest impact on AML during the year.
- Division of Forestry Director Leah MacSwords received the *2009 American Tree Farm System's Sustained Excellence Award*. This national award honors state foresters who have been strong advocates and supporters for the American Tree Farm System, a program of the American Forest Foundation.
- The Department for Natural Resources, in cooperation with the Virginia Mining Association, hosted the first *Interstate Arbor Day Celebration*. The event was held on a mine site that straddled the state line between Kentucky and Virginia and incorporated hundreds of school children from both states who planted trees and were given lessons on wetland construction.
- Partnering with the Center for Wetland and Stream Restoration, an organization within the U.S. Forest Service, department staff coordinated the activities of the Kentucky Wetlands Work Group comprised of representatives of all state and federal agencies with an interest in the subject. The members attended wetland development training and field trips to aid in the understanding of the processes and procedures needed for wetland creation on mine sites and forested areas.
- The Kentucky Mine Mapping Information System received the *Best of Kentucky Technology Award* in the Best Online Services category at the Kentucky Digital Government Summit.

Introduction

The Department for Natural Resources is one of three departments within the Energy and Environment Cabinet. The cabinet strategic plan describes the mission of the agency:

Improve the quality of life for all Kentuckians by protecting our land, air, and water resources; utilizing our natural resources in an environmentally conscientious manner; and innovating and creating efficient, sustainable energy solutions and strategies that reduce greenhouse gas emissions and create a base for strong economic growth.

The Department for Natural Resources developed a set of goals and objectives to work towards achieving the mission statement of the cabinet. These goals and objectives pertinent to natural resources in the Commonwealth are:

DNR GOAL 1. Natural resource development activities such as agriculture, oil and gas drilling, logging and mining are done in an environmentally responsible manner.

Objective 1 – Ensure that requirements of the Surface Mining Control and Reclamation Act of 1977 (SMCRA) and the Clean Water Act (CWA) as it applies to mining operations are met for all Kentucky mining operations.

Objective 2 – Encourage citizen participation in coal mine permitting and enforcement processes.

Objective 3 – Ensure that logging operations employ measures to protect water quality.

Objective 4 – Reduce residual impacts from pre-SMCRA mining by using the additional grant funds from 2006 SMCRA Amendments to increase the number of AML reclamation projects, AMD projects, and water supply projects.

Objective 5 - Evaluate the current Division of Oil and Gas regulatory program to ensure that it is adequate to prevent waste, protect correlative rights and protect the environment while encouraging responsible development and production of crude oil and natural gas resources.

DNR GOAL 2. Support statewide efforts to develop alternate energy sources and carbon sequestration opportunities.

Objective 1 – Enhance Kentucky's forest resources to improve their contributions to the environment and economy through management and reforestation activities.

Objective 2 – Promote reforestation (according to the Forestry Reclamation Approach) and wildlife habitat enhancement as the preferred choice for post-mining land uses to provide for enhanced wildlife habitat, recreational opportunities, high-value hardwoods for timber production, improved hydrologic conditions, and sequestration of carbon as a means to control greenhouse gas accumulation.

Objective 3 – Support the use of Agriculture Water Quality Act plans and practices in the development and production of bio-feed stocks for energy production.

Objective 4 - Increase the adoption of agricultural best management practices for proper conservation and wise use of Kentucky’s soil, water and other natural resources.

DNR GOAL 3. The natural resources of Kentucky are protected, managed and enhanced to provide maximum benefits to the people and economy of Kentucky.

Objective 1 – Establish programs and partnerships to reduce the incidence and impact of wildland fires in Kentucky.

Objective 2 – Protect Kentucky’s forest resources from environmental threats such as fires, pests and diseases.

Objective 3 – Protect prime farmland for agricultural production.

Objective 4 – Promote the establishment of new wetland areas as a part of natural resources development activities under the guidance of the Wetlands Working Group.

Objective 5 – Promote stewardship of Kentucky’s natural resources.

Objective 6 – Kentucky Heritage Land Conservation Fund (KHLCF) will continue to promote the conservation and management of ecologically significant lands throughout the Commonwealth.

DNR GOAL 4. Coal mining, logging, firefighting and agricultural activities are performed in a safe manner.

Objective 1 – Prevent flyrock incidents related to coal and non-coal mining

Objective 2 – DNR divisions will provide training to increase workplace safety and reduce worker accidents and injuries.

Objective 3 - Reduce serious mine accidents and fatalities.

Objective 4 – Provide underground coal mine licensees in Kentucky with the option to request OMSL-provided MSHA-mandated mine rescue team coverage that complies with the increased training and contest participation requirements under the federal MINER Act.

Objective 5 – Assist Water Conservancy Districts in addressing the continuing issue of conservancy district dams that need maintenance, breach analysis or emergency action plans.

The department uses these objectives to conserve and sustain Kentucky's natural resources while at the same time ensuring the protection of our citizens, our environment, and our workers. The department uses indicators developed from the above goals and objectives to track the department’s progress in this *Annual Report*, and will continue in later additions.

Measures for **Permitting:**

- Total number of permits pending.
- Total number of permits pending that exceeds regulatory time frames.
- Percentage of permit reviews completed within regulatory time frames.
- Percentage of permit reviews that exceed regulatory time frame.

Measures for **Reclamation:**

- Acres reclaimed on a surface mine.
- The number of abandon wells reclaimed vs. total wells.
- Acres per land use permitted.
- AML acres reclaimed.

Measures for **Enforcement:**

- Surface Mining Control and Reclamation Act (SMCRA) enforcement actions.
- SMCRA penalties.
- Office of Mine Safety and Licensing (OMSL) total inspections conducted.
- Forestry inspections conducted.
- Forestry related enforcement activities.

Measures for **Mine Safety:**

- OMSL drug violations within the Commonwealth.
- The number of serious accidents and the number of fatal accidents.

Measures for **Resource Status and Conservation:**

- The status and makeup of the Commonwealth's forests.
- Emerald ash borer quarantined counties.
- The status of conservation districts in the Commonwealth.
- Soil erosion and water quality cost share programs.
- The total acres of agriculture districts in the Commonwealth.
- The number of fallen animal grants distributed.

Measures for **Policy Developments:**

- The status of departmental regulatory developments.
- Statutory developments impacting the Department for Natural Resources.

Measures for **Administration and Services:**

- The Department for Natural Resources budget.
- Full-time personnel numbers with associated full-time cap positions.
- Special Projects:
 - Status of the Indiana Bat.
 - Activities of the wetlands working group.
 - Objectives and status of the Fill Placement Optimization Process.
 - Progress of the Cumulative Hydrologic Impact Assessment.
 - Underground Injection Control Authorization status.
 - List of the 2010 Commissioner's Award for Excellence in Mining Reclamation.
 - Green River Conservation Reserve Program.

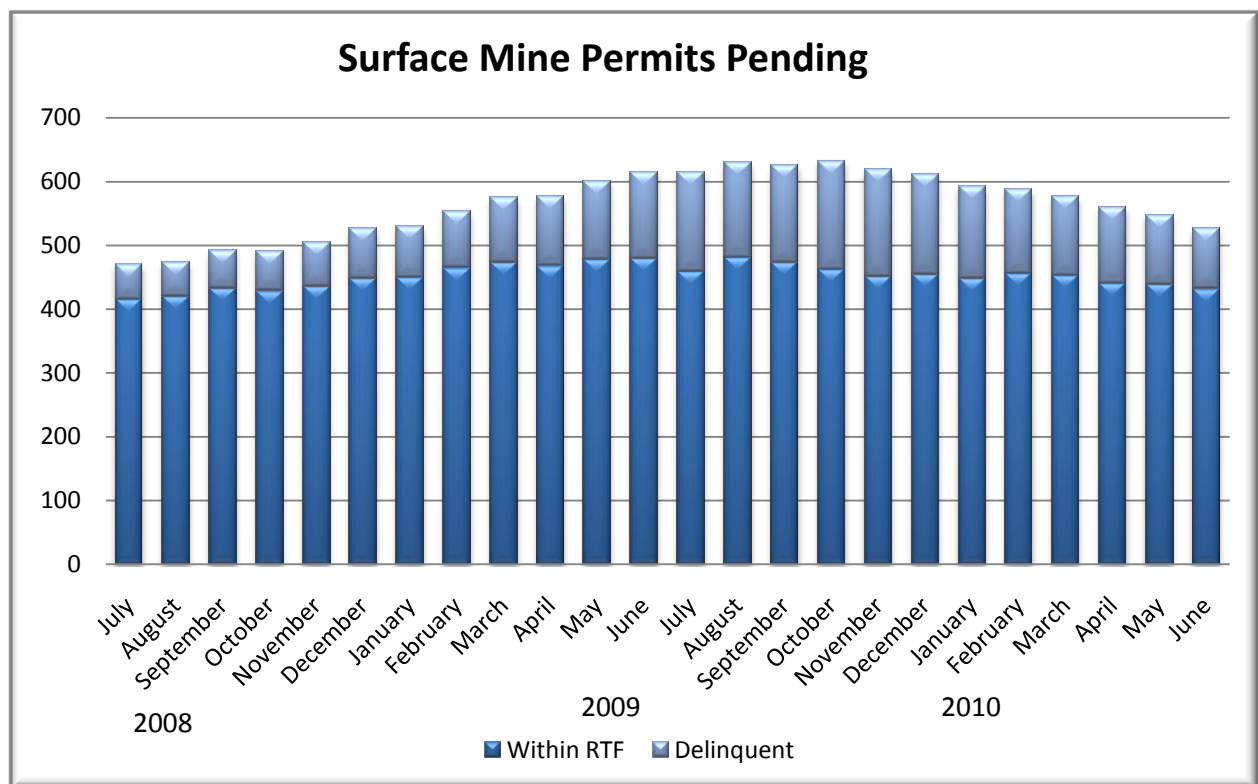
Permitting

The Department for Natural Resources, through its Division of Mine Permits and Division of Oil and Gas, administers critical permitting programs designed to afford these regulatory agencies the ability to ensure that affected industries adhere to all applicable laws and regulation mandated by both federal and state governments.

Mine Permitting:

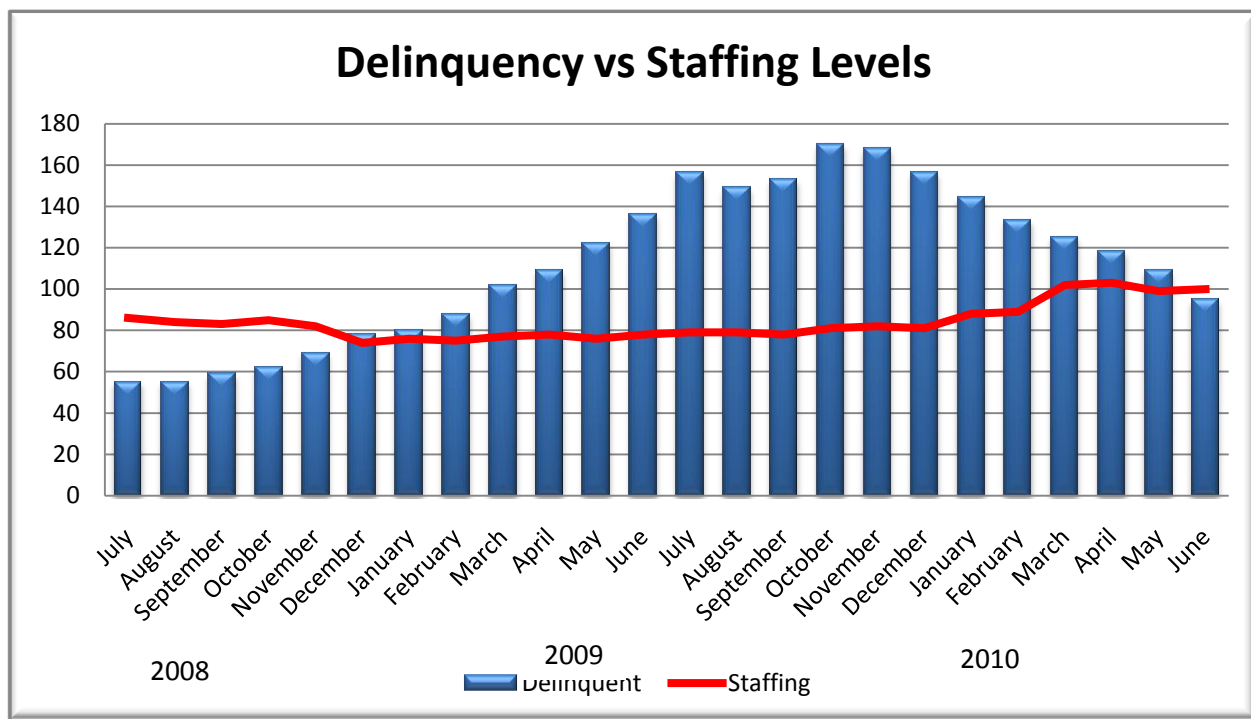
The Division of Mine Permits evaluates coal and non-coal permit applications that includes detailed mining and reclamation plans, and issues permits to ensure that all surface coal mining operations in Kentucky meet the minimum performance standards for environmental and public protection and reclamation as required by the federal Surface Mining Control and Reclamation Act (SMCRA) of 1977.

The graph below demonstrates the number of permits pending over a period of time from July 2008 to June 2010. It also shows that while there is a relatively steady number of active pending applications, permits in a delinquent status have been steadily decreasing after peaking in October 2009. At the end of June 2010 there were only 95 delinquent permits, down from 170 in October 2009.

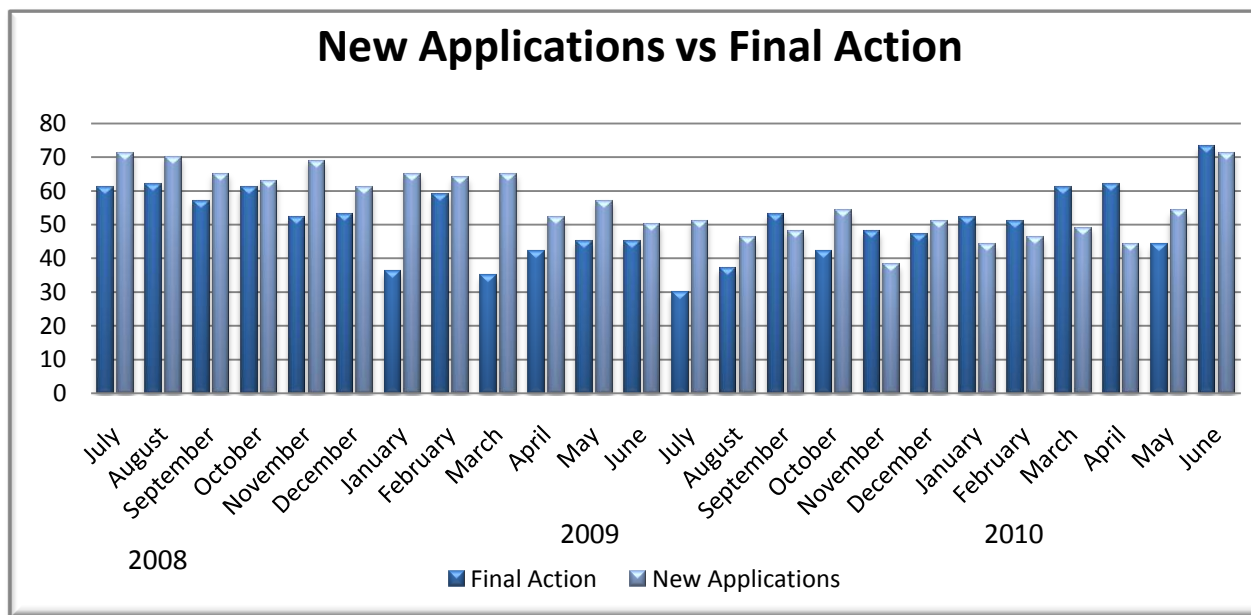


Issuing all permits within the prescribed regulatory time frame is difficult for any permitting agency but particularly so for permits related to coal mining. The Division of Mine Permits, while dealing with the unique complexities of coal mining permit applications, developed a backlog of delinquent permits due to decreasing staffing levels experienced beginning in January 2008. This critical loss of staff reached its lowest point in December 2008 primarily as the result

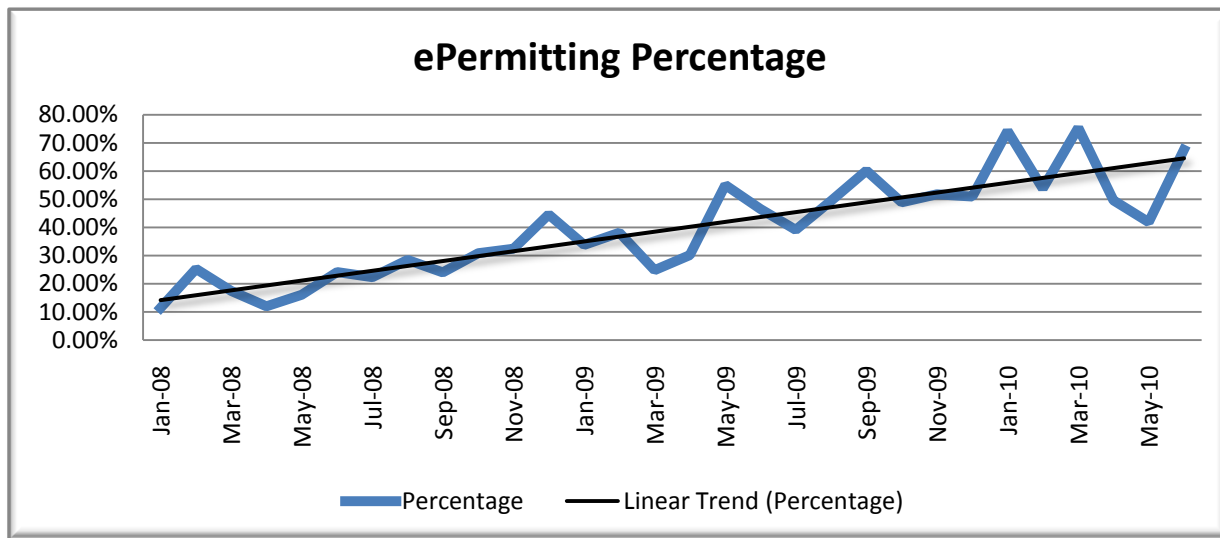
of numerous retirements and personnel cuts by the General Assembly. As expected and demonstrated in the graph below, staffing levels began to increase the delinquency rate. Conversely, as increased funding provided for additional staff in November 2009, delinquencies have shown a steady decrease.



The following graph demonstrates that final actions granting approvals or denials issued by the Division of Mine Permits closely matches the number of new applications received on a monthly basis. If this level of staffing and timely reviews are maintained, permitting backlogs should disappear new applications should be handled within the regulation time frame.

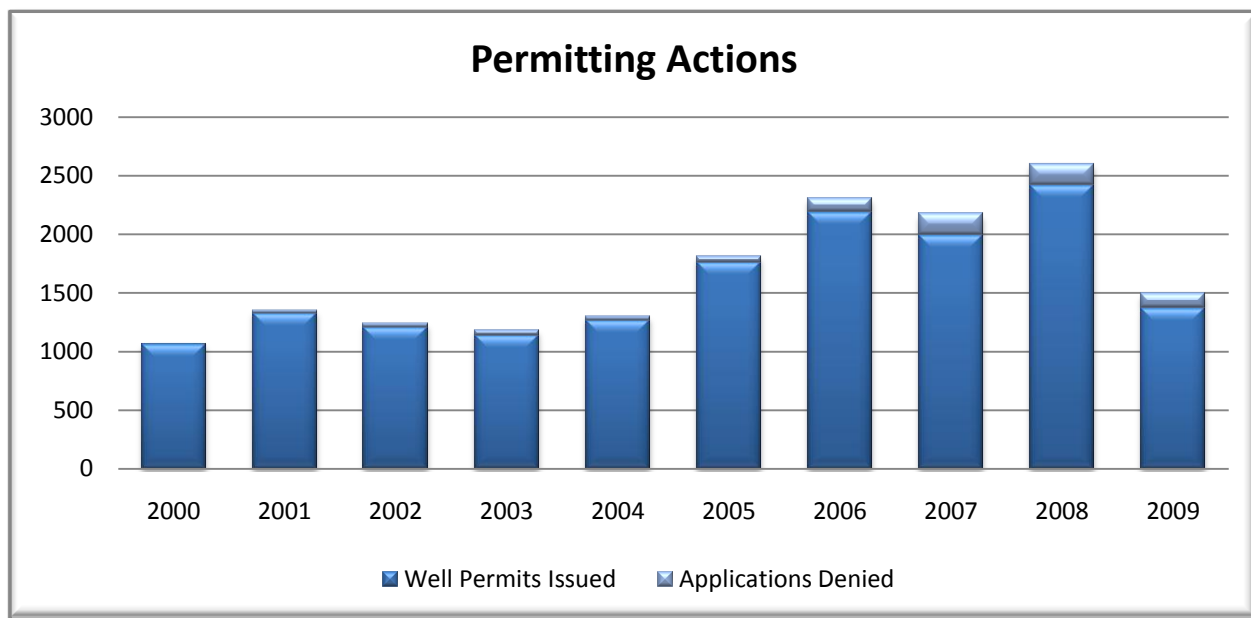


The Division of Mine Permits has been promoting the use of electronic permitting as a means for decreasing review times and increases the ease of submittal by industry. Using electronic submittal the permit can be easily separated and given to individual reviewers for simultaneous review. The graph below shows a steady increase in the percentage of electronic permit application submittals.

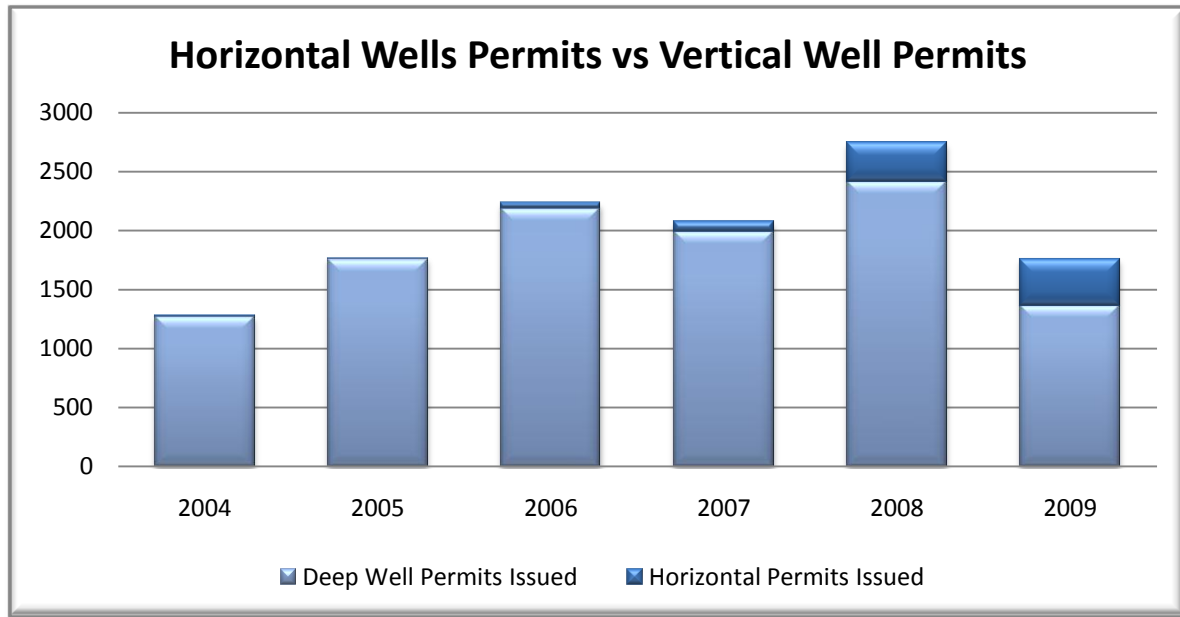


Oil and Gas Permitting:

The Division of Oil and Gas issues permits for oil and gas wells throughout the Commonwealth. During calendar year 2009, the Division of Oil and Gas issued 1,367 permits to drill, deepen or reopen a well. While this number is down (FY 10 1,247) from previous years, the division has observed a substantial increase in the number of drilling permits involving horizontal/deviated drilling technology which permits companies to achieve greater oil/gas recovery.



During 2009, there were 392 permits issued for horizontal wells accounting for 22 percent of the total permits issued. Industry representatives have testified that one horizontal well equals four verticals wells in output. Given this information, the division expects to see a decrease in the overall number of vertical well permits issued as the number of horizontal well applications increase.



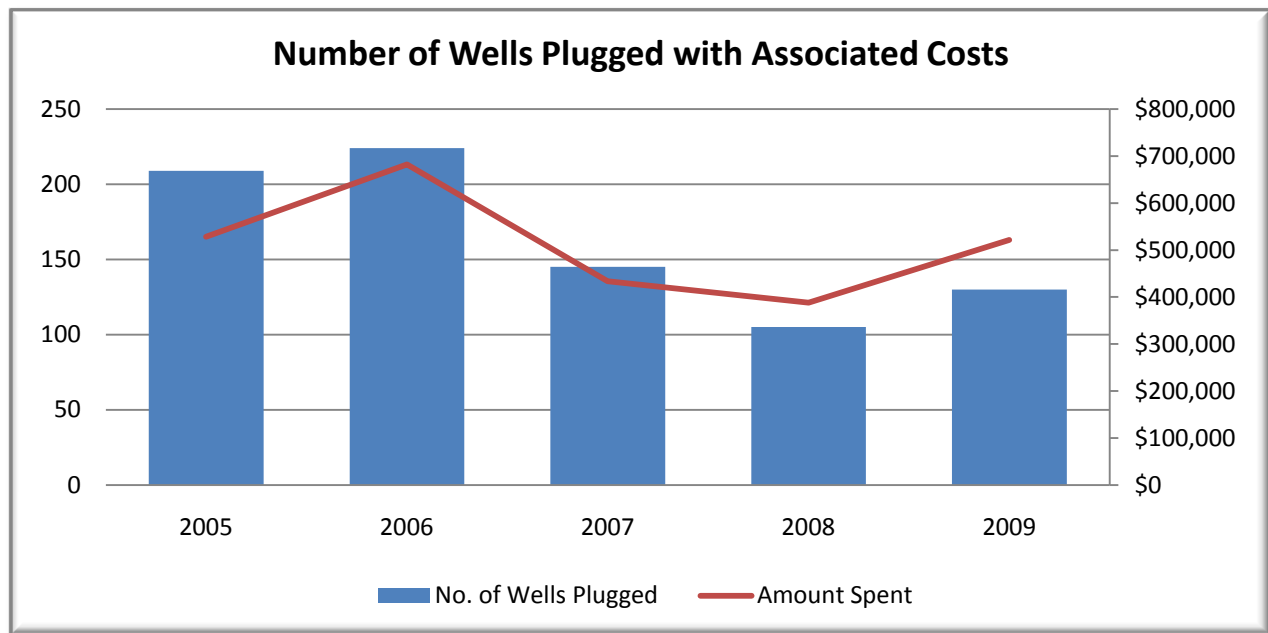
Reclamation

Harvesting of the state's abundant natural resources generally causes disturbances to the land and water and the Department for Natural Resources is responsible for ensuring these impacted areas resulting from coal mining and oil and gas drilling are reclaimed to regulatory standards. When the coal, oil, or gas industry fails in their responsibility to ensure proper reclamation, DNR agencies have some latitude and responsibility to correct identified problems.

Oil and Gas

There are 13,044 abandoned oil or gas wells in Kentucky, some of which could cause potentially serious environmental harm. The Division of Oil and Gas, using statutory authority and funds from the Abandoned Well Plugging Fund, plugs abandoned wells using contractors from an authorized bid list. Specific criteria are used to select those wells to be plugged facilitating a priority list based on environmental and safety hazards. In calendar year 2009, 130 abandoned wells were plugged totaling an expenditure of \$521,354 from the plugging fund.

Over the past five years, the division has plugged 813 abandoned wells totaling an expenditure of \$2,553,475 from the plugging fund. Even with this highly effective program in place, the division is still confronted with approximately 12,000 abandoned wells within the Commonwealth.

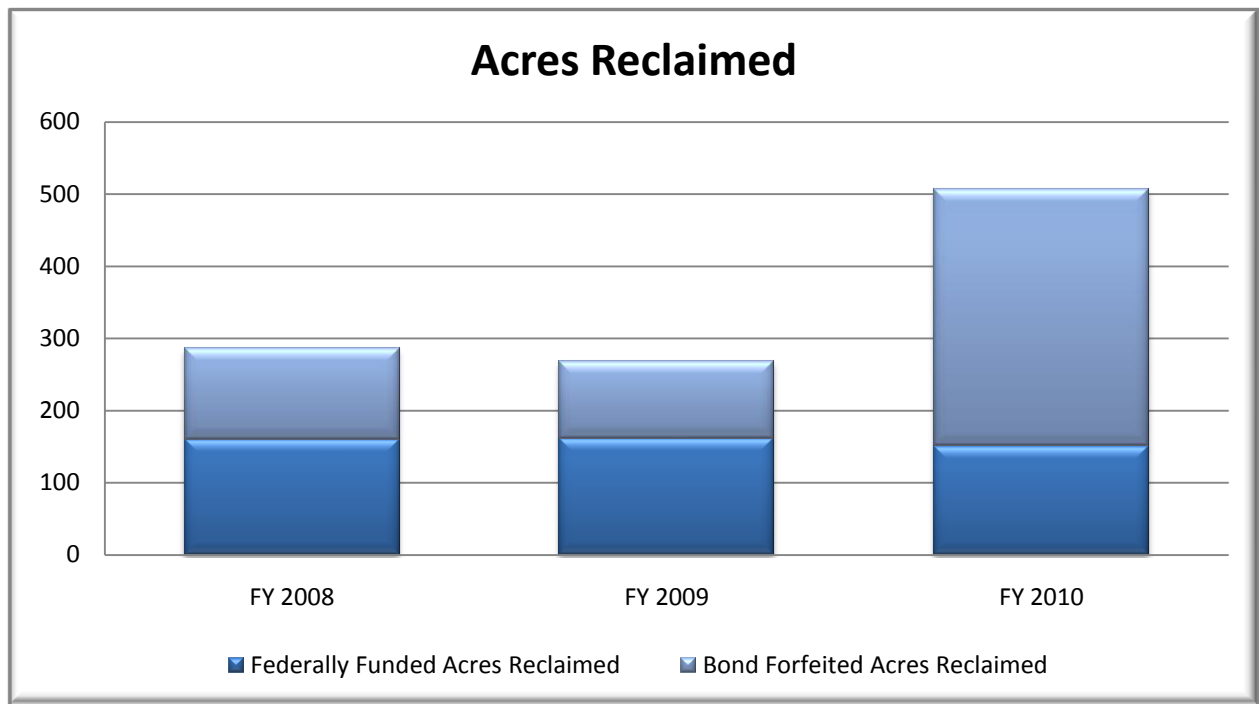


The graph above shows the number of wells that Division of Oil and Gas has plugged (reclaimed) over the past five years. The cost per well varies per year due to the complexity of plugging some wells. The cost of plugging per well was highest in 2009 with an average cost of \$4,010.42.

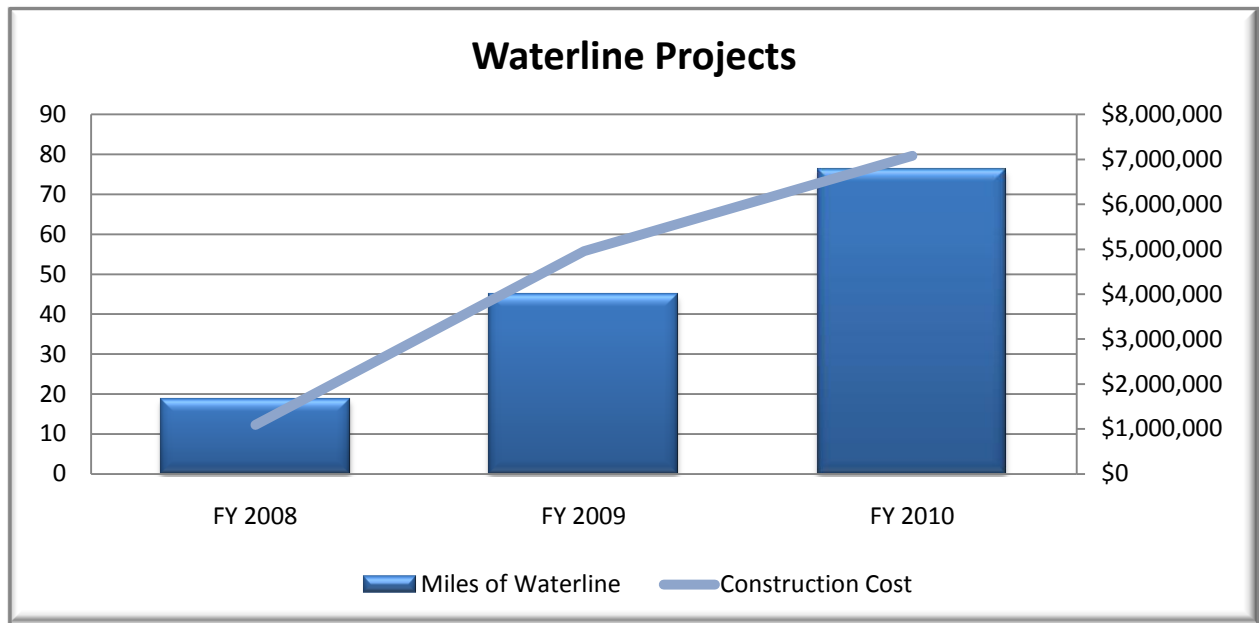
Abandoned Mine Lands

The Division of Abandoned Mine Lands (AML) is responsible for working throughout the state's coal fields to protect the public from health and safety problems caused by prelaw mining (prior to 1982). Reclamation is the process of restoring a site to a safe and environmentally stable condition. A site's eligibility is based in part on whether mining occurred at the site before 1982. If so, the site may be eligible for AML reclamation. AML employees look for public health and safety problems at the site, including water quality problems, landslides and open mine portals. The severity of these problems helps determine the priority given to reclaiming the site. Once a site is found to be eligible for AML reclamation, the Program Development Branch prepares the paperwork needed to get approval from the federal OSM to proceed with the work.

These projects are funded through available AML federal funding or through forfeited reclamation bonds. A company's bond may be forfeited to the Commonwealth if the company fails to mine and reclaim a site to the standards specified in its mining permit. The forfeited funds are used by the state to reclaim the site for which the bond was posted. The graph below shows the number of combined acres reclaimed by AML.



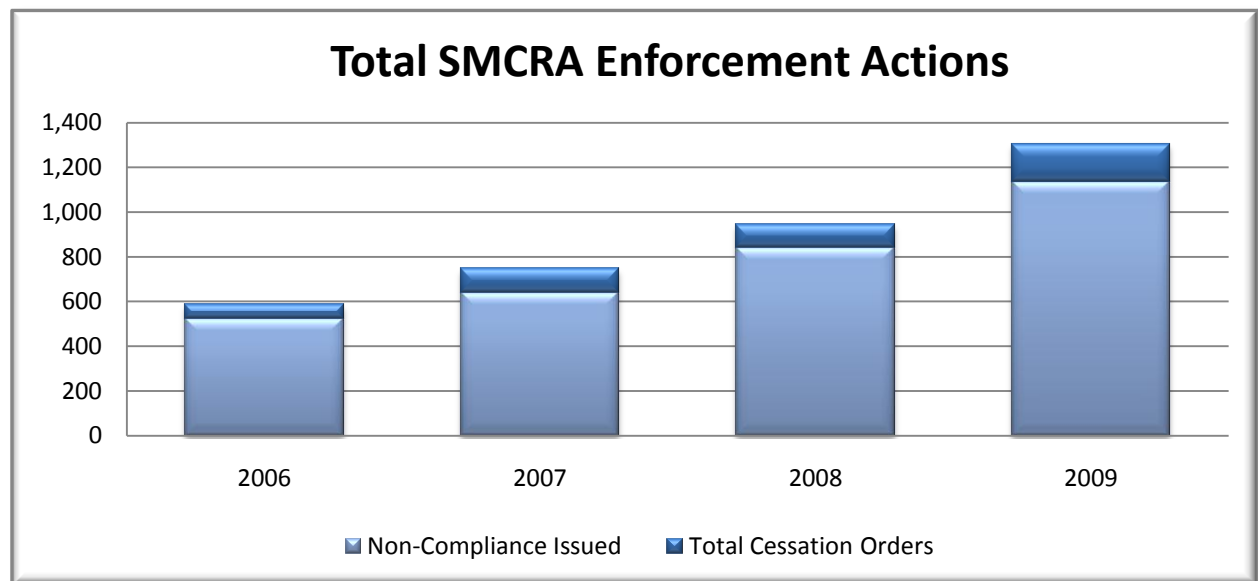
With the changes to SMCRA in 2006 which eliminated the 30 percent cap of the AML budget for waterline funding, along with an increase in overall funding of the AML program, a definite upward trend is evident in the number of Kentucky residents receiving potable water through the AML program. AML currently has nine waterline construction projects ongoing, eight construction projects that were expected to start this next fiscal year, three waterline design projects, two ongoing groundwater studies, and five other pending requests for groundwater studies.



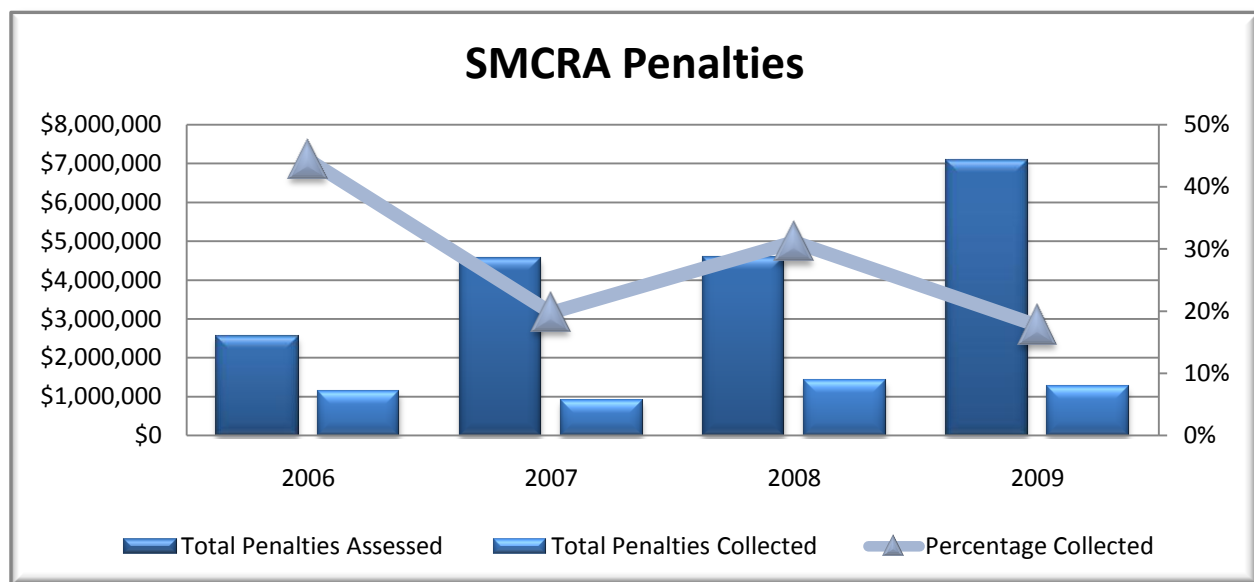
The Department for Natural Resources has several agencies that are regulatory in nature and perform inspections to verify that regulated entities are compliant with statutory and regulatory provisions. When statutory and regulatory provisions aren't followed, enforcement action is needed. The following information provides a brief snapshot of the inspection and enforcement actions for which the department is responsible.

Division of Mine Reclamation and Enforcement

As part of the Surface Mining Control and Reclamation Act (SMCRA) regulatory program the department is required to perform inspections on SMCRA permitted facilities. If there are violations identified on a particular site a Notice of Non-compliance is issued. Depending on the severity of the violation a cessation order may be issued. Also, if the Notice of Non-compliance is not addressed timely and appropriately, a cessation order may also be issued. The graph below shows the number of enforcement actions taken by the department over the past four years reflecting a steady increase in actions taken to ensure compliance with mining laws and regulations.

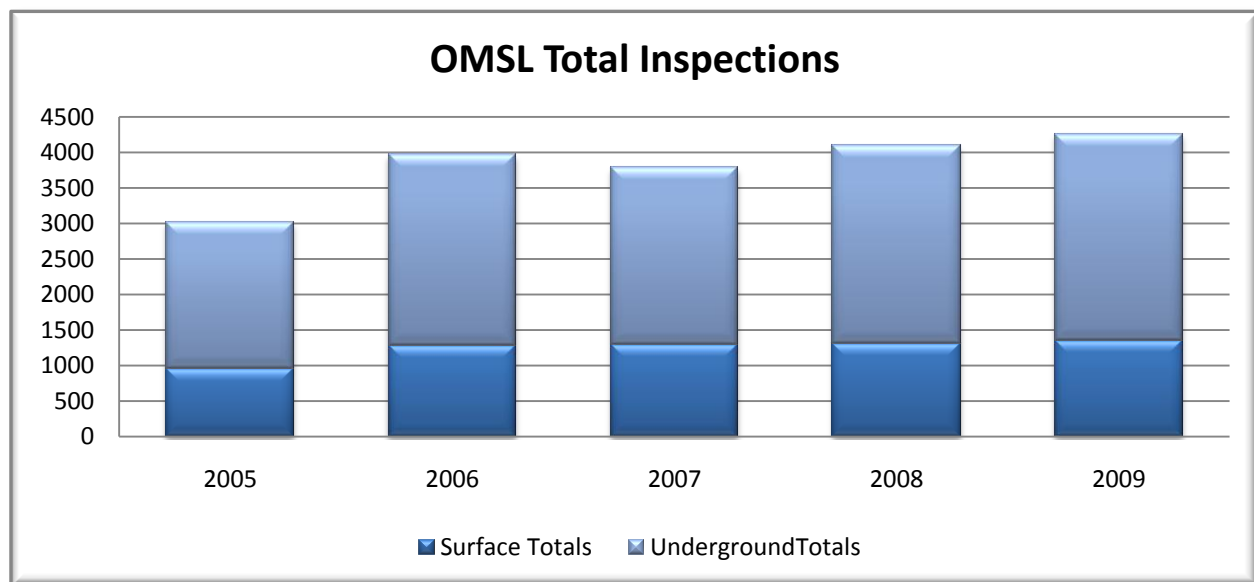


When SMCRA violations are issued penalties are assessed. The graph (page 15) shows the total penalties assessed and the total penalties collected with the percentage collected for each year. The amount collected is significantly less than the amount assessed, due in part to lack of collection staff, the lag in time between assessment and the time the collection is realized, and potential negotiations that may occur to reduce the amount collected.



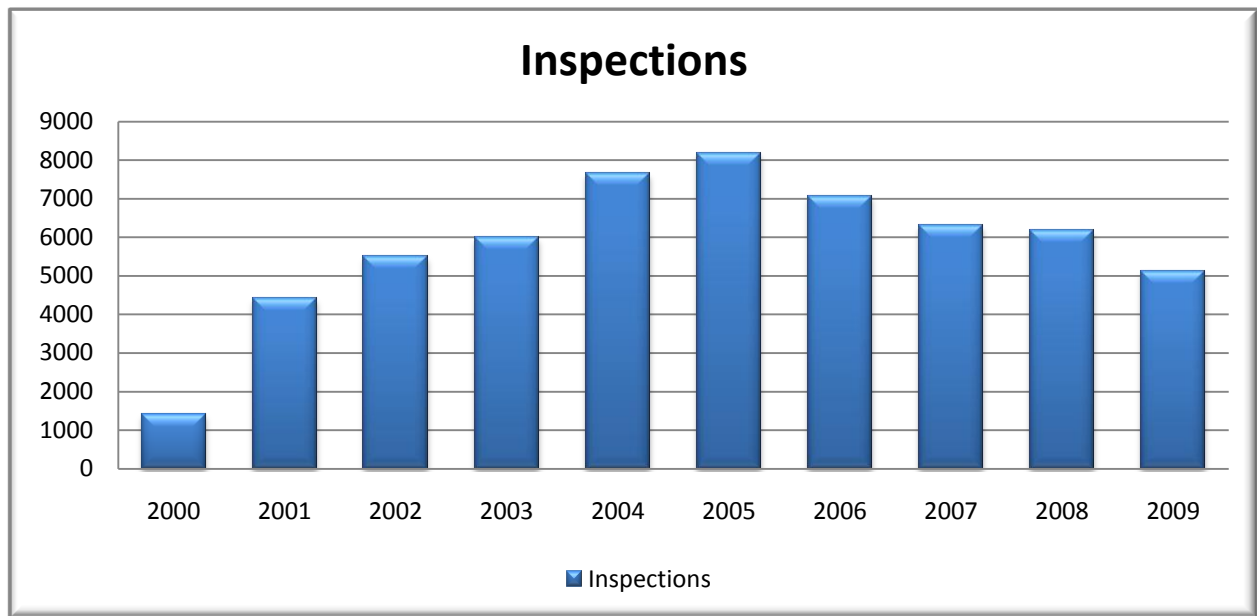
Office of Mine Safety and Licensing

The Office of Mine Safety and Licensing is responsible for performing safety inspections on all licensed mines in Kentucky. Currently there are 214 surface mines and 177 underground mines licensed in the state for a total of 391. Inspections cover many different safety aspects of underground and surface mines. The number of total inspections has risen each year due to a continuing increase in the number of mines that have been licensed and the number of inspections required by state and federal law.

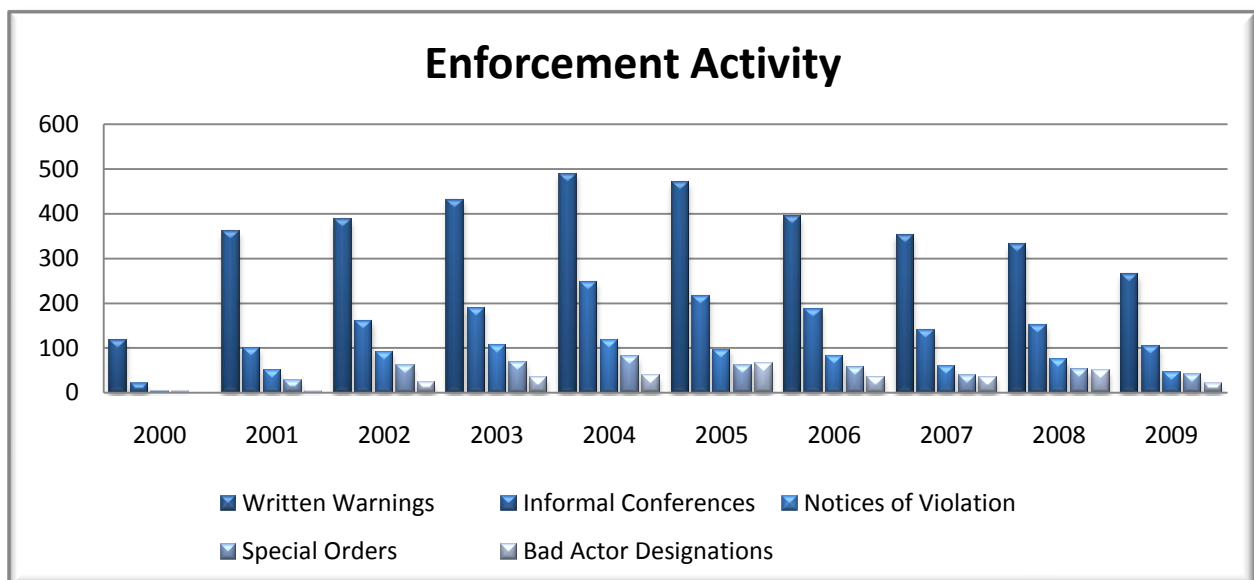


Division of Forestry

The Division of Forestry performs inspections to ensure compliance during timber harvesting operations. The graph below shows the inspections performed over the past nine years peaking in 2005 and declining afterwards as a result of staff reductions related to budgetary constraints.



The inspections noted above can result in enforcement activities related to violations of forestry laws in KRS Chapter 149 resulting in a five-step enforcement procedure. This process begins with a written warning and progresses through various steps ending with either a civil penalty or a Secretary Ordered Bad Actor Designation. This designation is tracked by the Division of Forestry and is provided to interested parties when requested.



Division of Oil and Gas

The division regulates the permitting, drilling, production, and plugging of crude oil and natural gas wells in the Commonwealth. Field inspectors, located primarily eastern, south-central, and western Kentucky, perform inspections to ensure the implementation of safe drilling and operational practices. During this fiscal year, there were 11,780 Well Site Inspections and 1,167 Gathering Line Inspections performed.

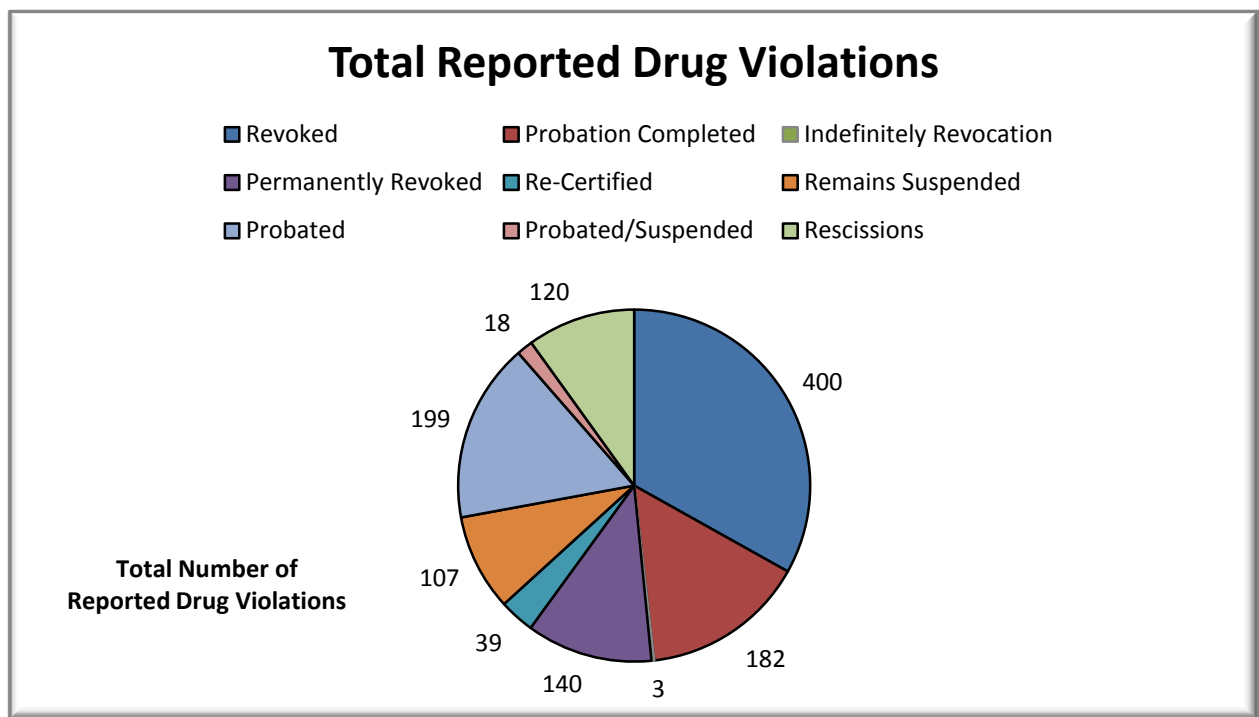


The Office of Mine Safety and Licensing (OMSL) is responsible for ensuring Kentucky's miners have a safe working environment to perform their job. To achieve this goal, several different aspects of the agency's safety programs come into play ranging from mine inspections, drug testing, safety analysis, to providing state agency mine rescue teams.

Drug Free Workplace

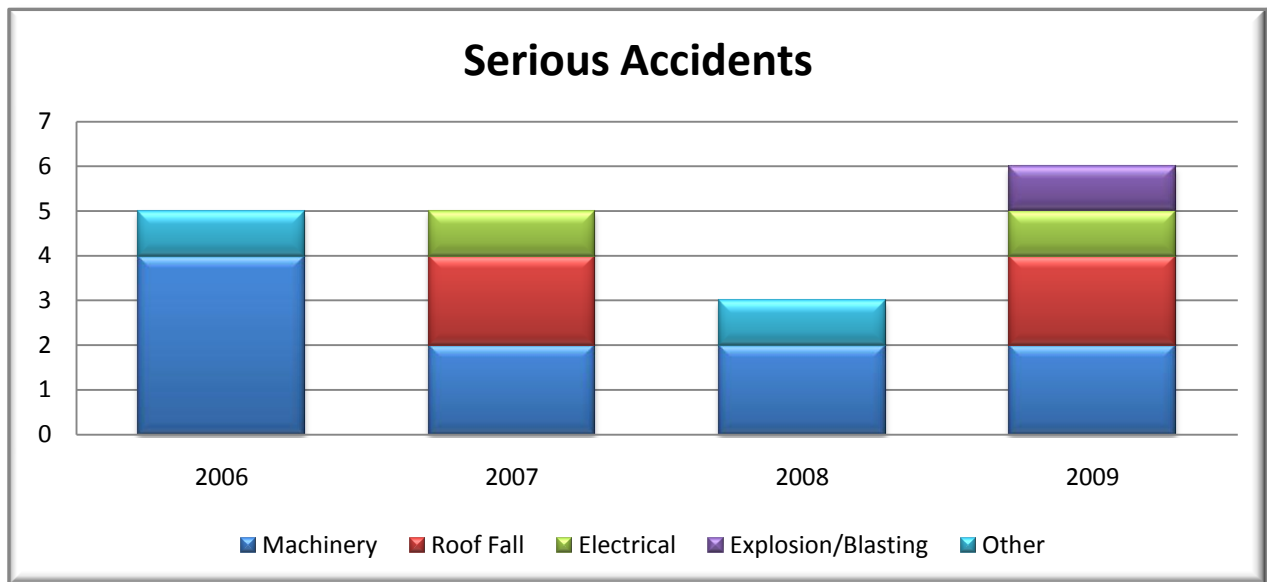
In December 2004, the Mine Substance Abuse Task Force was formed to address the increasing concern about drug and alcohol abuse in the mining industry. In December 2005, the task force released its final report that included recommendations for, among other things, testing and training miners on substance and alcohol abuse. As a result, House Bill 572, which incorporated the recommendations of the task force, was passed and became effective July 12, 2006. The bill addressed several different issues related to drug and alcohol abuse in the workplace and provided for pre-certification drug testing, random drug testing, and post-accident drug testing.

The following graph shows the disciplinary actions taken by the Mine Safety Review Commission regarding the miner's license when reported for a violation from the beginning of the drug testing program to present.

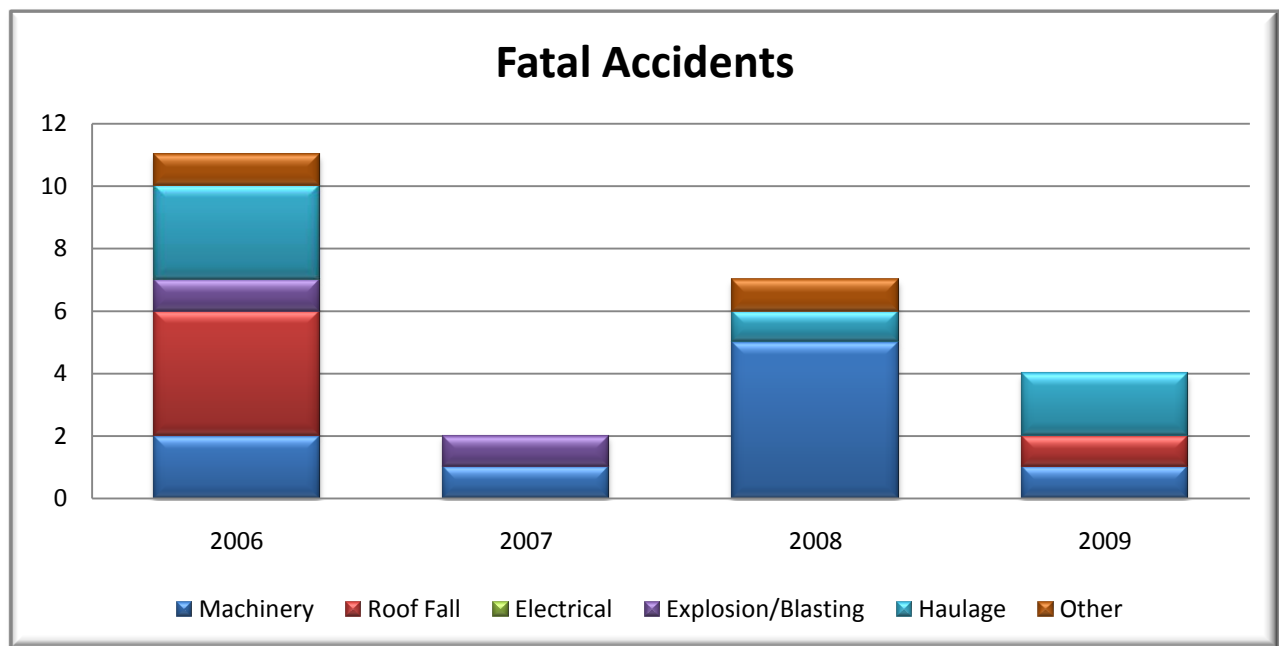


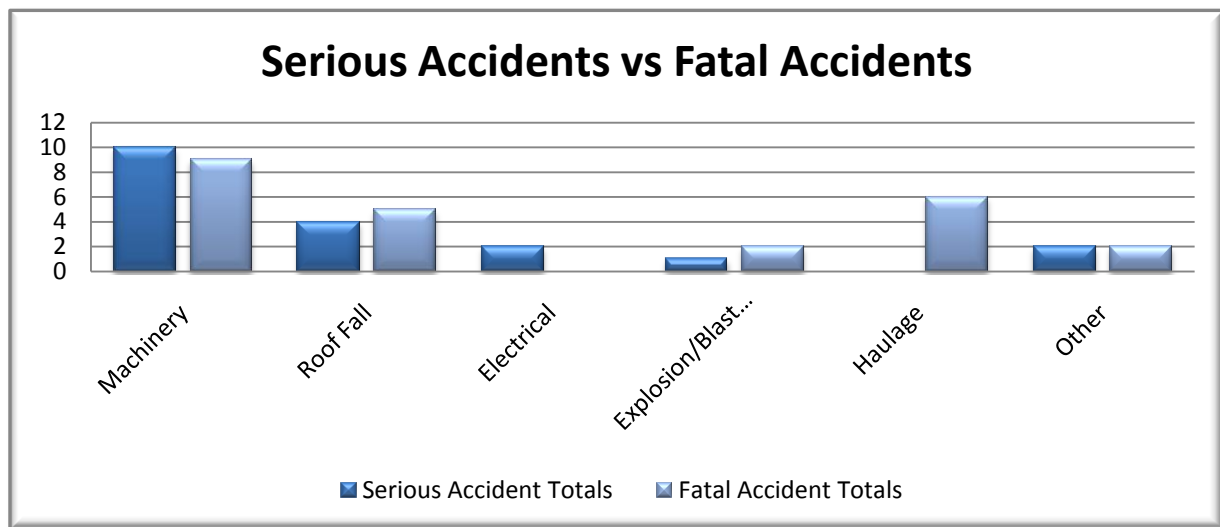
As in every profession accidents can and will happen and mining is no exception. OMSL tracks and analyzes the accidents reported to them to evaluate trends in order to alert the mining industry of changes that can be made to prevent future accidents. They also use this data to improve training information to better prepare miners for such occurrences.

The following graphs show information related to serious accidents and fatal accidents. A serious accident is one that causes physical injury and creates a substantial risk of death or causes serious and prolonged disfigurement, prolonged impairment of health, or prolonged loss or impairment of the function of any bodily organ.



Note: Other accidents include Slip and Fall, Rib Roll/Fall, Timber Cutting, and High Wall Failure.

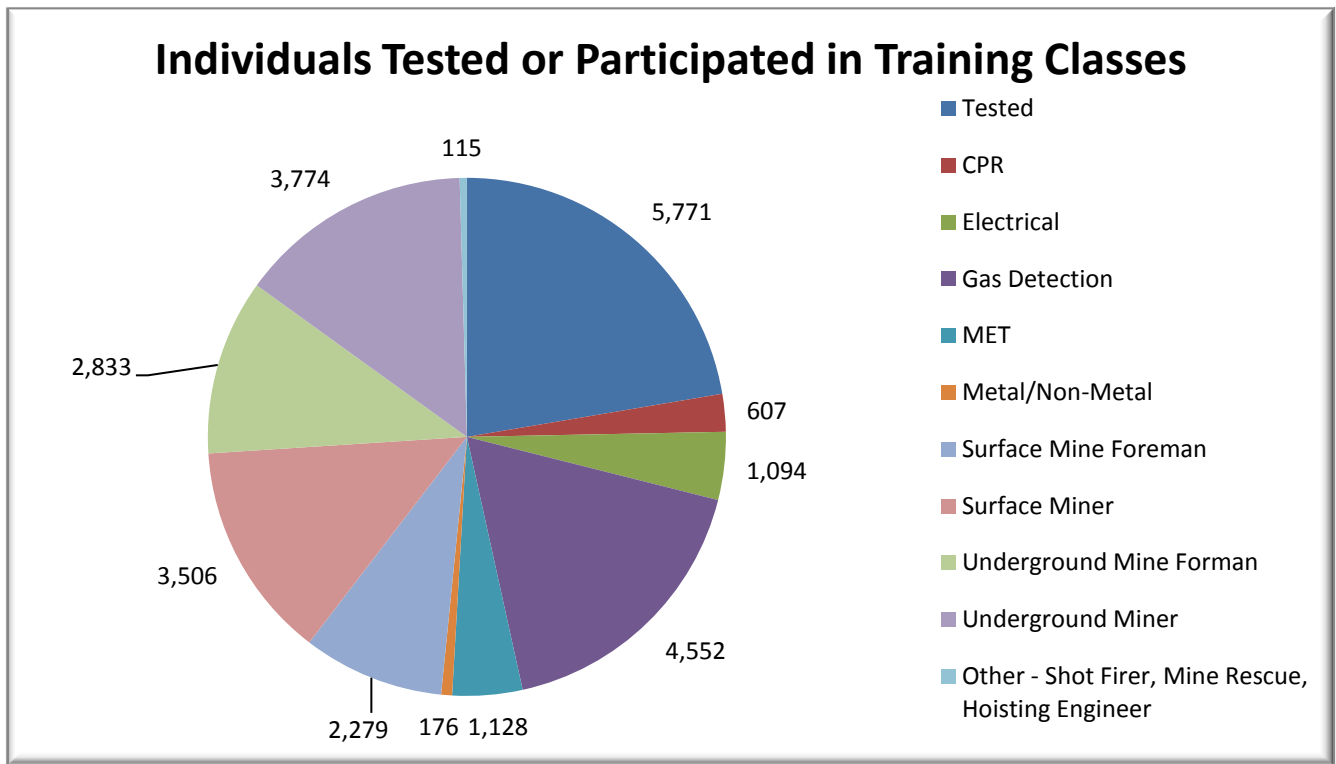




With modern machines being involved with each step of the mining process, it is understandable that machines would be the cause of most of the mining related accidents in today's mines. OMSL has used this data to develop further processes and procedures designed to protect miners. The most recent example is the filing with the Legislative Research Commission of a proposed administrative regulation to require roll over protection and fallen object protection on excavators.

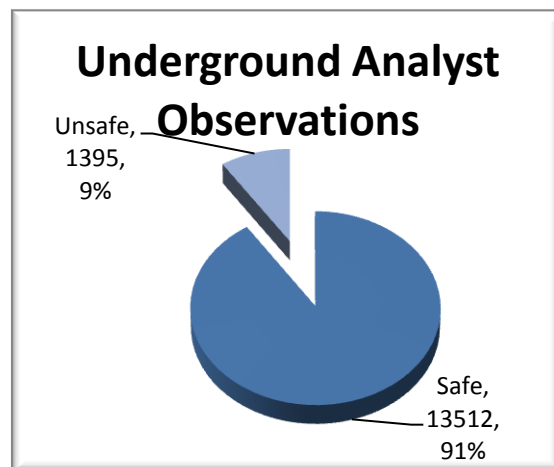
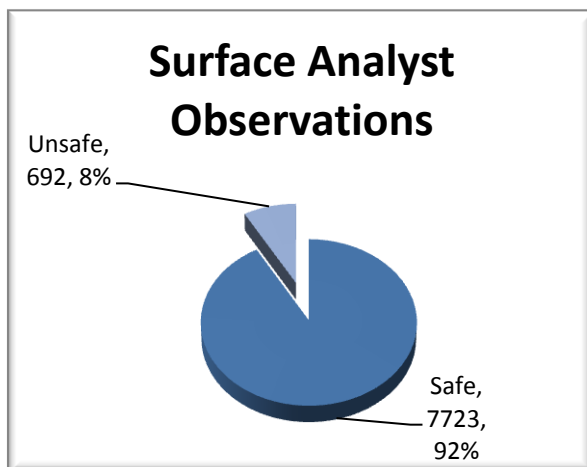
Training

The Division of Safety Analysis, Training, and Certification provides professional level miner training and grants certification to those individuals who meet the appropriate requirements. The division also aims to prevent mine accidents and fatalities by observing and evaluating the work habits of miners while at the same time providing on-the-job counseling to the individual miner and assisting in correcting any unsafe or potentially hazardous actions. The following graph shows the type of trainings offered by OMSL and the number of tests given and certifications issued.



Mine Safety Analysts

The primary responsibility of the safety analysts is to prevent mine accidents and fatalities by observing and evaluating the work habits of miners while at the same time providing on-the-job counseling to the individual miner and assisting in correcting any unsafe or potentially hazardous actions. The primary responsibility of the instructor is to conduct professional-level miner training and develop programs from prepared course outlines and scripts. The Kentucky Office of Mine Safety and Licensing is the only agency in the nation that has a mine safety analyst program. Mine Safety Analyst play an important role in reducing the risk of fatalities or miners being seriously injured. From January through August 2010, underground and surface analysts conducted a total of 23,332 job observations. Of those observations 9 percent were considered unsafe. Upon observation of an unsafe condition or practice, the mine safety analyst instructed the miner on how to perform the job safely and correctly.



Mine Safety Rescue Teams

The Office of Mine Safety and Licensing has a long and very proud history of providing mine rescue services for underground mining operations in Kentucky. The Office of Mine Safety and Licensing believes it is important that every miner in the Commonwealth know that should a mine rescue event occur while he/she is in the mine, Kentucky mine rescue teams are ready to respond to any emergency.

The Office of Mine Safety and Licensing has six district offices located in Madisonville, Barbourville, Harlan, Pikeville, Martin and Hazard with the main office located in Frankfort. There is a mine rescue station in each of these offices with state-of-the-art mine rescue equipment in each station. There are two state mine rescue teams at each of the six district offices comprised of Office of Mine Safety and Licensing personnel.



Barboursville Mine Rescue Team



Harlan Mine Rescue Team



Martin Mine Rescue Team



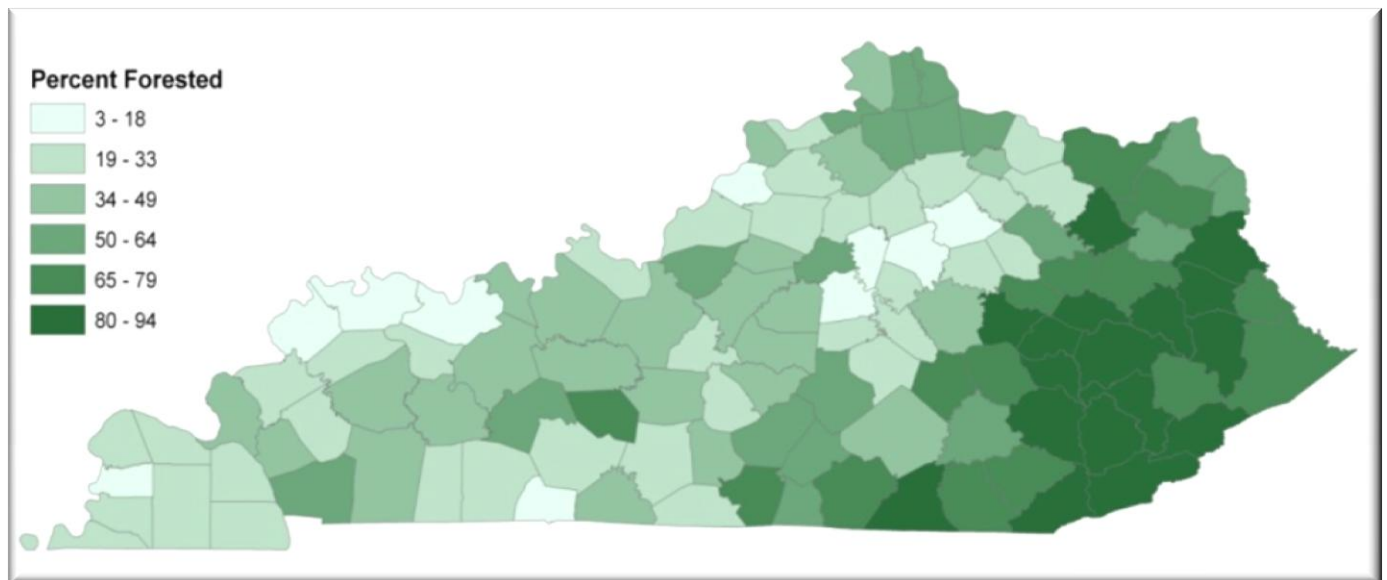
Madisonville Mine Rescue Team

Resource Status and Conservation

This section of the report provides a brief snapshot of the status of the Commonwealth's resources and their management.

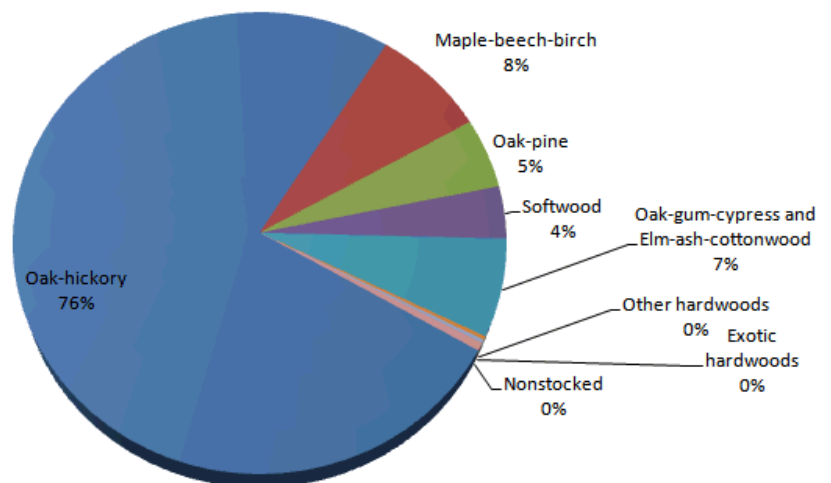
Forests

Kentucky's forests cover 11.9 million acres or 47 percent of the state. Ninety-seven percent of the forestland is considered available for timber production. The Cumberland Plateau and the Appalachians in the eastern portion of the state are the most heavily forested. The central and western portions of the state, although less densely forested, account for 50 percent of the total forestland area.



KY 2007

Oak-hickory remains the dominant forest type in Kentucky; however, red maple has taken over as the dominant individual species in the state and is more numerous than all oak species combined.

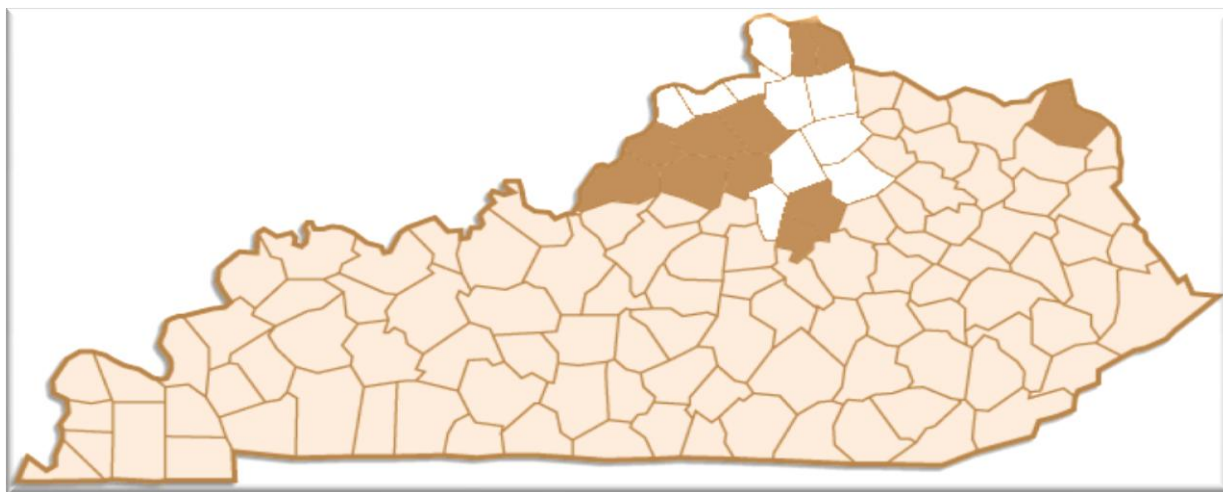


Since 2004, annual timberland growth and removals have increased. While annual removals have increased, growth still remains twice the level of removals indicating a sustainable level of harvesting at current rates.

The Kentucky Division of Forestry's forest health program focuses on identifying and monitoring for potential insect, disease, invasive and exotic plant problems that threaten our forestlands. The average annual mortality on timberland has declined by almost 3 percent since 2004. This was accomplished by the diligent work of the Division of Forestry and other supporting agencies.

The Division of Forestry monitored for Hemlock Woolly Adelgid (HWA) in eastern and southeastern Kentucky on approximately 20,000 acres. Survey areas included Kentenia and Kentucky Ridge State Forests, Pine Mountain State Resort Park, Paintsville Lake Wildlife Management Area, Jenny Wiley State Resort Park and UK's Robinson Forest. Twelve counties currently have light to moderate infestations. To combat this the division began soil injection of Imidacloprid for the hemlock "seed trees" that will be responsible for seedling back drains with hemlock after the initial HWA wave passes through. HWA is currently in every drain in both Kentenia and Kentucky Ridge State Forests.

The division worked with the Forest Health Board and the Animal and Plant Health Inspection Service in developing an Emerald Ash Borer (EAB) strategy and action plan. EAB was found in 12 counties and resulted in a quarantine of 20 counties mainly in central Kentucky. The map below shows those quarantined counties.



The above mentioned insects are not the only invasive species impacting the Commonwealth. The division partnered with the Exotic Pest Plant Council to increase awareness of the threats that invasive exotic plants pose in our natural environment. Efforts include Invasive Plant Awareness Month (September), Kentucky's Least Wanted Posters (privet was featured) and plant eradication projects at numerous state parks, historic sites, our state Capitol and many urban areas.

The number of state forests recently grew by two to total nine state forests throughout the Commonwealth. The Marion County Wildlife Management Area and State Forest and the Rolleigh Peterson Educational Forest were purchased using Heritage Land Conservation Funds.



The Marion County Wildlife Management Area and State Forest is a 1,293-acre tract of land located east of Lebanon. The Kentucky Department of Fish and Wildlife Resources, Marion County Fiscal Court and the Kentucky Division of Forestry cooperatively own and manage the property. The property was purchased with funding from the Kentucky Heritage Land Conservation Fund, Wildlife Restoration Act and the Kentucky Fish and Game Fund.

The Rolleigh Peterson Educational Forest consists of 98 acres located in eastern Jefferson County. Louisville Metro Parks and the Kentucky Division of Forestry purchased the property as part of the City of Parks initiative.



The property is known as the largest known black walnut plantation east of the Mississippi River. The property was purchased using \$700,000 from the Kentucky Heritage Land Conservation Fund and \$292,390 donated to the Louisville Metro Parks Foundation from a private donor. The City of Parks initiative calls for acquisition of new park land, significant improvements to Louisville's existing parks, development of a 100-mile paved Louisville Loop trail and new environmental education programs. This acquisition permanently protects three-

quarters of a mile of Floyds Fork, which curves around the northern and eastern edges of the property, just north of Taylorsville Road. The property is managed for riparian and green space protection, research and educational purposes.

The division's management goals are to maintain the 50-acre black walnut plantation and to establish a multiple species seed-rearing site for use by the division's tree nurseries.

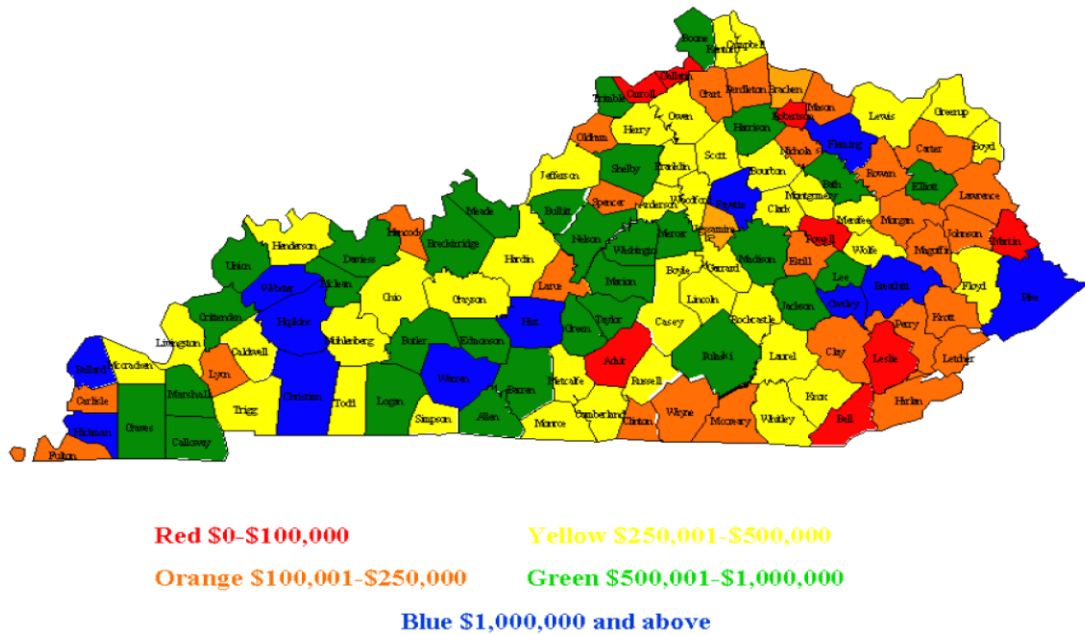
The Division of Forestry runs two nurseries for the purpose of having seedlings to plant on public and private land. These nurseries are located at Gilbertsville in Marshall County near the Kentucky Dam and at Grassy Creek in Morgan County near the town of West Liberty. The seedlings are used for a wide variety of purposes from enhancing wildlife habitat to reclaiming surface mining sites. During Fiscal Year 2010 the division sold 2.11 million seedlings for a total of \$550,000. Part of that 2.11 million came in the form of matching trees to 96 of Kentucky's 121 county conservation districts for distribution at local Arbor Day events. 146,570 were purchased and 102,580 were matched by the Division of Forestry for a total of 249,150 seedlings.

Conservation

The Division of Conservation is the agency responsible for assisting Kentucky's 121 local conservation districts in the development and implementation of sound soil and water conservation programs. They manage, enhance and promote the wise use of the Commonwealth's natural resources and responsibly administer the conservation programs of the division to ensure, through the conservation districts, the availability of technical and financial assistance to the landowners of Kentucky.

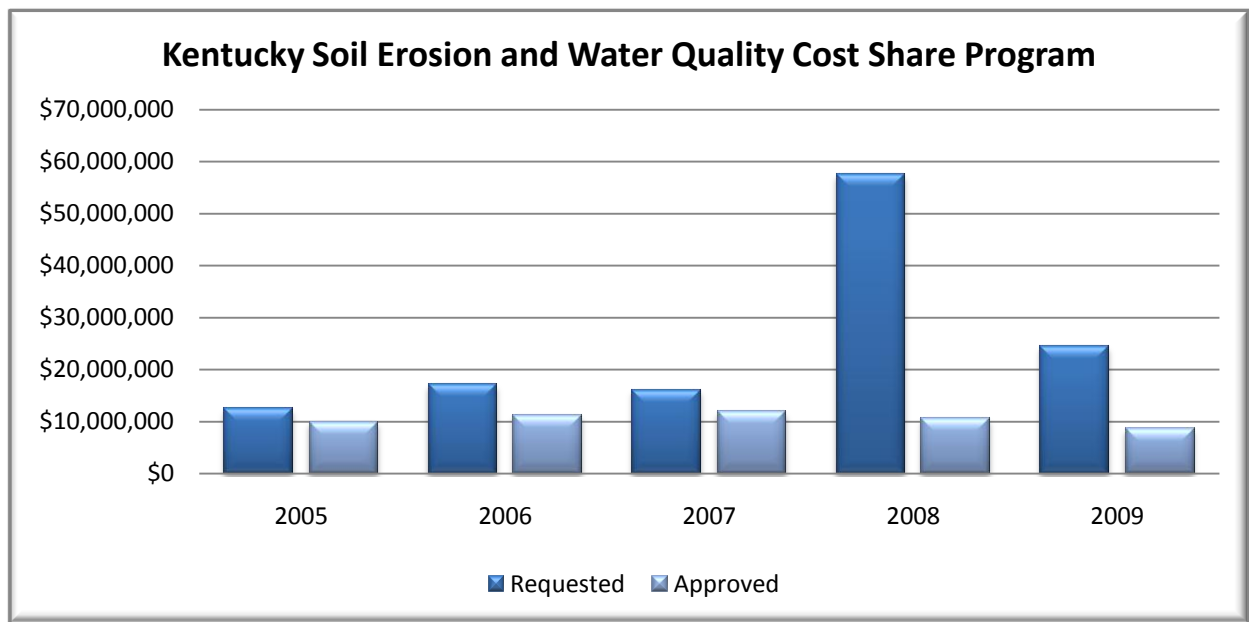
The division distributes funding to the 121 conservation districts in the state. These funds are a combination of federal, state and local funds. The map below shows the funds distributed to each county.

Federal, State and Local Funding of Conservation Districts



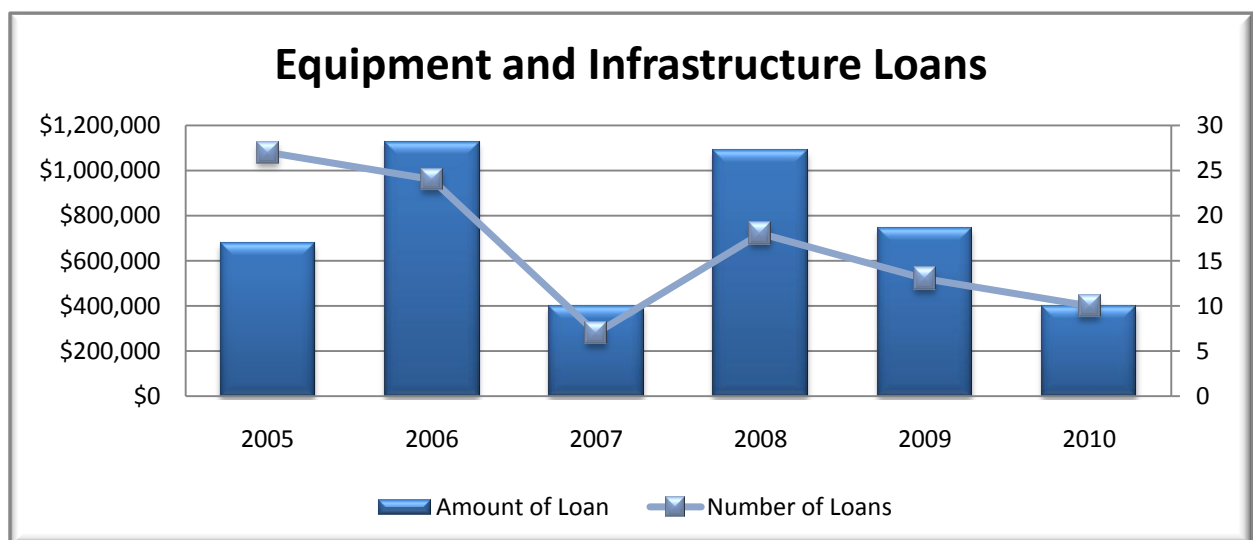
In 2010, the Soil and Water Conservation Commission disbursed \$975,000 in Direct Aid funding to conservation districts to support part-time and full-time district technical and administrative positions. In addition to personnel, Direct Aid also covers office support that includes rent assistance, purchase of space, technology support and utilities to counties who are no longer housed with United States Department of Agricultural offices.

Local conservation districts administer cost share projects related to the Kentucky Agriculture Water Quality Act passed in 1994. The goal of the act is to protect surface and groundwater resources from pollution as a result of agriculture and silviculture (forestry) activities. During the 2010 fiscal year, the Division of Conservation approved \$4,750,955.11 in cost share projects that are administered on the local level by conservation districts in cooperation with landowners in the area. This graph shows the relationship between amounts requested and amount that was approved over a five year period of time.



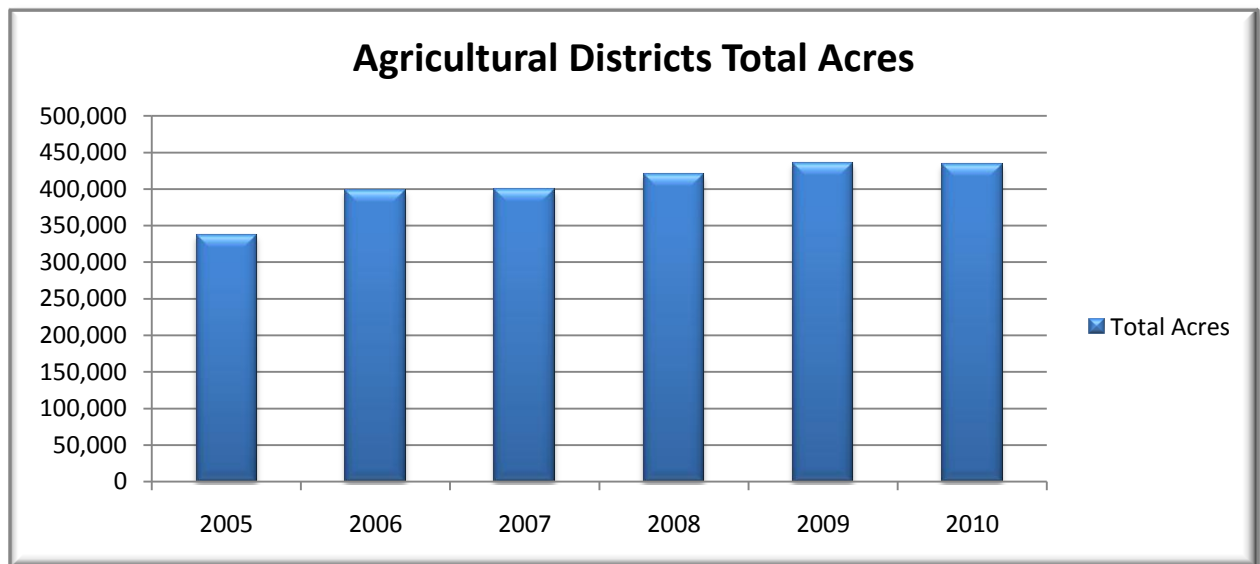
The Kentucky Division of Conservation administers an Equipment Revolving Fund Loan Program. The lending program was established in 1948 by the Kentucky General Assembly to provide funds to Kentucky's Conservation Districts for the purchase of specialized equipment. The equipment has been used in projects to conserve or protect Kentucky's soil, water and other natural resources. Equipment eligible for loans through the program include dozers, backhoes, front-end loaders, earthmover pans, and other equipment suited for conservation work.

The next graph shows five years worth of activity in the Equipment Revolving Loan Program. In the past years, the Equipment Revolving Loan has seen declining numbers of loans granted, most likely the result of the slowing economy and a reduction in the number of operating farms. On July 1 of this year, the interest rate dropped from 4 percent to 2 percent for conservation districts wanting to purchase equipment, infrastructure, or implementing repairs on one of the 200 flood retarding dams across the state. This program is also available to contractors wishing to purchase equipment through their local conservation district.



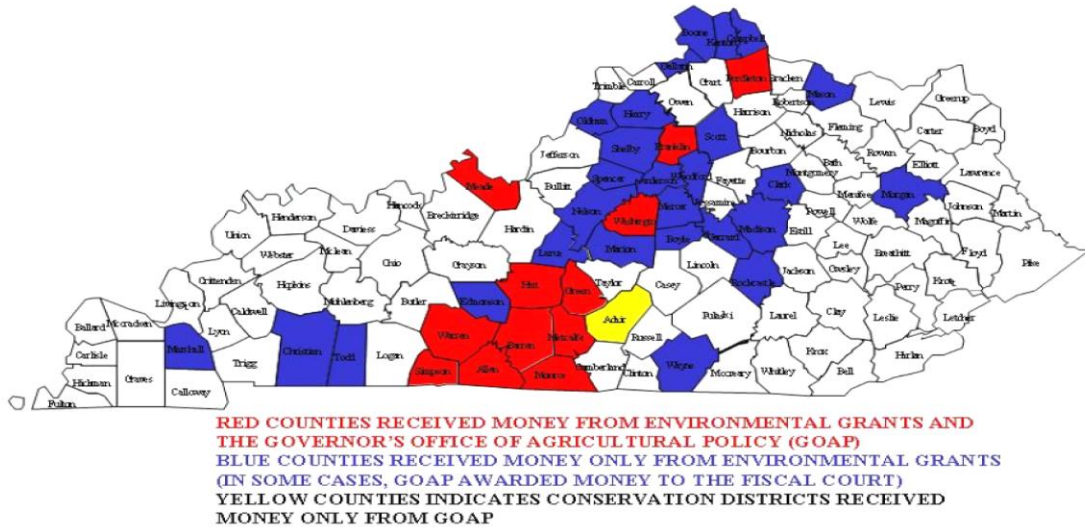
Since the loan program is a revolving fund it has been successful in providing over \$62,000,000 in loans to 2,250 individual contractors and conservation districts over the 57-year history of the program. This volume has been generated from its original appropriation of \$1,850,000.

The Division of Conservation administers the Agricultural District Program. This program was created by the Agricultural District and Conservation Act (KRS 262.850) that was passed by the Kentucky General Assembly in 1982. Kentucky has been a national leader in the protection of its land resources and in promoting the economic importance of its agricultural industry. The Agricultural District Program plays a valuable role in protecting our agricultural land base and family farms across the state. The goals of the Agricultural District Program are to protect our best agricultural land for food and fiber production and to prevent its conversion to nonagricultural usage. The agricultural district program allows landowners of 250 acres or more to petition their local conservation district and the Soil and Water Conservation Commission for the creation of an agriculture district. This graph shows that landowners are continually seeking avenues to protect their land and that agricultural district still remains a viable, growing program.

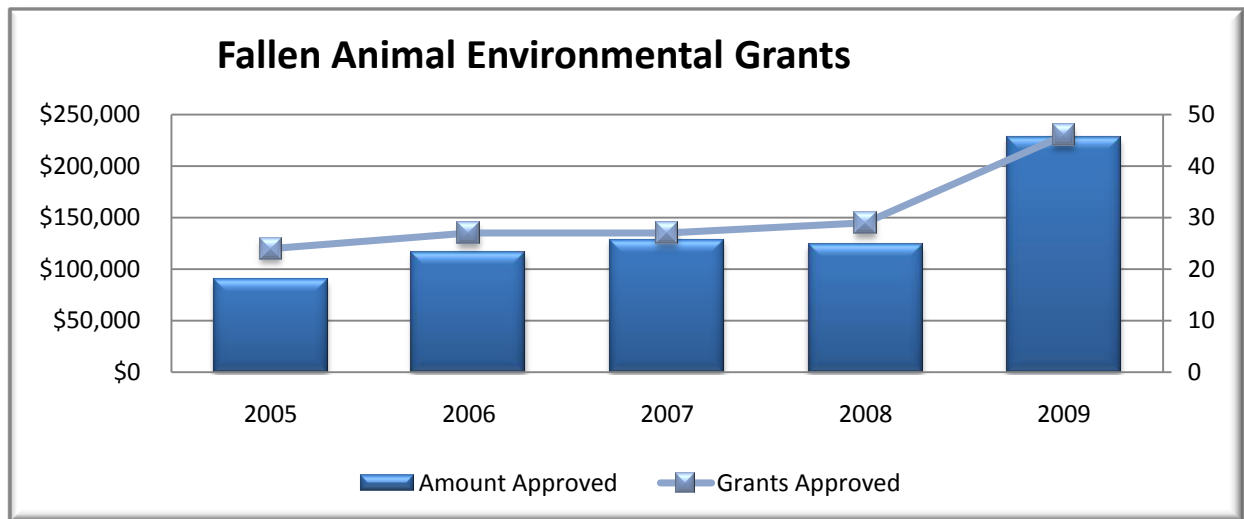


In FY 2010, the Kentucky Division of Conservation joined the Governor's Office of Agricultural Policy to help combat a growing problem for counties having to pay higher prices to remove dead animals in their community. Grants were awarded to conservation districts and fiscal courts through the Environmental Grant Program administered by the Kentucky Soil and Water Conservation Commission. Additional grants were provided through the Fallen Farm Animal Disposal Assistance Program administered by the Governor's Office of Agricultural Policy. This major initiative will continue through 2011.

FALLEN FARM ANIMAL ENVIRONMENTAL GRANTS



The graph below shows the number of fallen animal environmental grants that were approved and the total amount of fund distributed over a five year period. The Environmental Grant Program (funded through the Soil Erosion and Water Quality Cost Share Program) also funds other projects across the state besides the fallen animal program. Projects such as white goods pick-up, metal recycling, illegal dump clean-up, local cost share programs to address on-site sewage problems, tree planting projects, stream bank stabilization, and agriculture watershed monitoring.



To reduce reoccurring flooding in the city of McKee, the National Resource Conservation Service (NRCS) began working with local sponsors in the 1980's to evaluate the most cost-effective methods of protecting homes and businesses in the watershed. In 1994, the city of McKee was again impacted by floodwaters and NRCS partnered with local leaders to complete the environmental planning for Flood Retardant Structure 3. Construction of the Pigeon Roost

Floodwater Retarding Structure 3 in Jackson County was completed in the fall of 2009. U.S. Rep. Hal Rogers was instrumental in securing federal funds for this project and state Rep. Marie Rader helped the sponsors secure State funding for land rights and sewer pipe relocation. Funding of the project is a cost share between the local sponsors and NRCS as outlined in the project agreement. The flood retardant structure will provide nearly \$160,000 per year of flood damage reduction while protecting the city of McKee from flooding.

Policy Developments

Throughout the past year several policy developments, both regulatory and statutory, have been realized that will aid the department in managing the natural resources of the Commonwealth. These developments are listed below.

Legislative Changes

HB 283

House Bill 283 represents the legislation that has the largest impact on the department from the 2010 Legislative Session. The fees related to surface coal mining permits had not been changed since 1983 and the previous amount was insufficient to cover the cost to review and issue a permit. The bill increased the surface coal mining permit fee and permit renewal fee as set forth in KRS 350.060(11) and (13); the surface coal mining permit amendment fee and permit revision fees as set forth in KRS 350.070(2) and (4); and the surface coal mining permit transfer fee as set forth in KRS 350.135(1). The bill also ensured that the additional money generated by this increase would stay with the Division of Mine Permits.

HB 268

House Bill 268 amended KRS 351.315 to require at least eight hours of annual training during the preceding three years for the renewal of a Kentucky blaster's license and allow that no more than four hours of that training be attributed to attending a conference unless the department approves the additional hours. This is a net increase of eight hours of training over the previous requirement of 16 hours of training for the same three year period. The proposed legislation was amended during the legislative process to increase subsidence insurance from \$100,000 to \$300,000 per structure and created coverage up to \$25,000 for living expenses incurred from displacement due to mine subsidence.

HB 215

HB 215 amended KRS 350.130 to allow notices of noncompliance of a coal mining violation to be sent by electronic mail to the permittee and declared service of the notice effective upon delivery of the notice to the recipient's inbox. This was a cost saving measure for the department who previously was required to send notices out by standard certified mail. This cost the Division of Mine Reclamation and Enforcement several thousand dollars a year. This completely voluntary program currently has 112 participants with more companies showing interest each day. The department predicts a savings of roughly \$50,000 per year.

Regulatory Developments

There were several regulatory developments that made significant changes to department programs. Most of these changes were made in the area of Mine Safety, however, there were changes in other areas that aided the department as a regulatory agency.

Mine Safety

There were several amendments to the regulations enforced by the Office of Mine Safety and Licensing (OMSL). These changes were as follows:

- **805 KAR 5:030.** This amendment altered the penalty process in order to better align the regulation with the governing statute. This proposal was effective Dec. 11, 2009.
- **805 KAR 7:020.** This administrative regulation was amended to require individuals to be at least 18 years of age prior to enrolling in an inexperienced miner class notwithstanding KRS 339.230. This proposal became effective Sept. 2, 2010.
- **805 KAR 7:060.** This amendment allowed the same approval process for underground mining training programs to apply to surface mining training programs. This proposal was effective Dec. 11, 2009.
- **805 KAR 8:060.** The amendment to this administrative regulation simply removed adjudicated violations in other states as part of the criteria for determining the amount of the penalty to be assessed. This was a criteria that the agency was not able to use to determine penalty assessments. Therefore the criterion was removed. This proposal was effective Sept. 2, 2010.

OMSL is currently in the process of amending 805 KAR 3:100. This amendment will require excavators to have fallen object protection and rollover protection that is compliant with standards established by the International Organization for Standardization. This proposal was filed with the Legislative Research Commission Aug. 26, 2010.

Oil and Gas

The Division of Oil and Gas amended five administrative regulations in response to the passage of HB 452. These amendments required the Division of Oil and Gas to review the location of as-drilled wells that are drilled through a workable coal bed. These amendments were effective Oct. 10, 2010, except for 805 KAR 1:190 which took effect Nov. 17, 2010.

- **805 KAR 1:030.** The amendment to this administrative regulation introduces information regarding plats for wells drilled through a workable coal bed. The information shall be submitted using NAD 83, with Single Zone Projection.
- **805 KAR 1:070.** This amendment adds clarity in response to HB 452 from the 2009 legislative session. This amendment clarifies that a well shall be plugged and abandoned if the well is unable to be remediated.
- **805 KAR 1:140.** This amendment introduces information regarding horizontal and directional wells as it relates to HB 452 from the 2009 legislative session. The amendment revised the definition of “Directional Survey” in order to match the statutory definition from HB 452.
- **805 KAR 1:190.** The amendment added language related to reducing the distance between markers required for slopes of 20 degrees of inclination.

- **805 KAR 1:200.** This new administrative regulation provides general information concerning the time frames associated with the submittal of directional and inclination surveys and establishes the fee and details to whom the fee applies and the appropriate time for submittal.

The division is currently performing a review of the administrative regulations in 805 KAR Chapter 1 in order to update any regulations that may be out of date with accepted regulatory standards.

Mine Permits

In response to the passage of HB 283 the Division of Mine Permits promulgated and passed an amendment to 405 KAR 8:010.

- **405 KAR 8:010.** The administrative regulation was amended to insert the correct fee amounts that changed in response to the passage of HB 283. This proposal was effective Sept. 2, 2010.

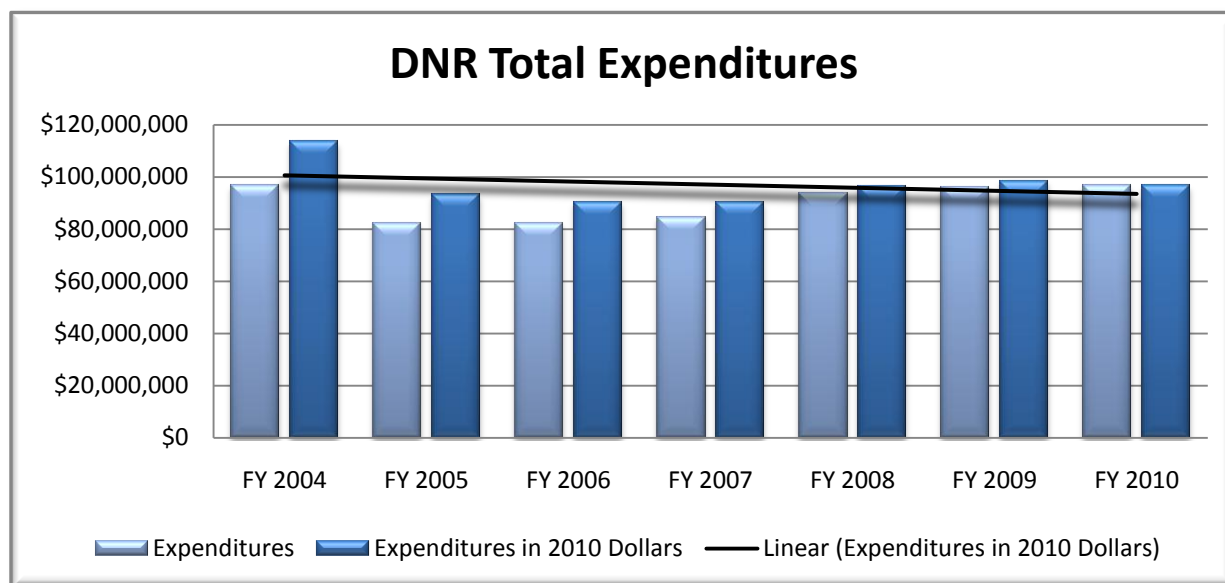
Administration and Technical Support

To ensure agencies within the department are able to perform their regulatory duties technical and administrative support is provided, in the areas of personnel, budget, grants, and special projects.

Budget

As with many other state agencies the Department for Natural Resources has suffered budget reductions to the point where personnel numbers have been noticeably reduced. These reduction have made it difficult for departmental agencies to ensure regulatory objectives have been met.

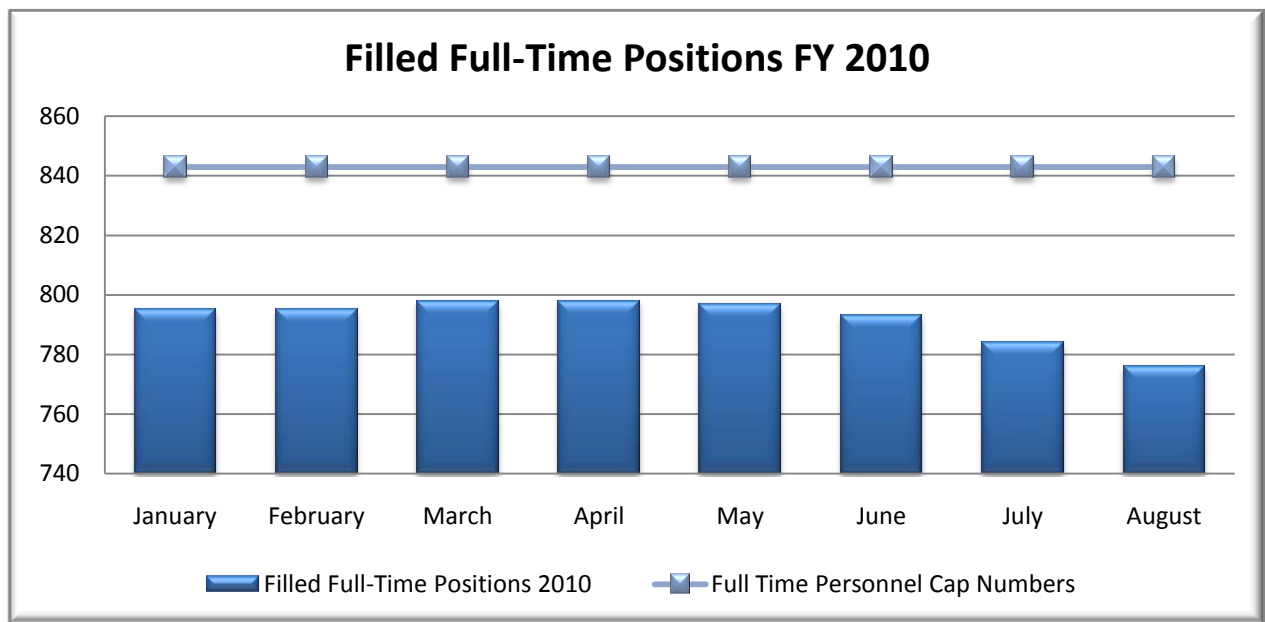
As part of the regulatory objectives the department oversees several different projects that enable the accomplishment of these tasks.



The department's expenditures consist of general funds, federal grants, and fees collected, as authorized by various statutes and regulations. As can be seen above the department's actual expenditures have decreased over the past several years as indicated by the trend line with a slight upturn in FY 2009. The minor upturn noticed in FY 2008 and 2009 is mainly due to increased expenditures in abandoned mine lands.

Personnel

The Department for Natural Resources is the largest department within the Energy and Environment Cabinet with 776 filled full-time positions as of Aug. 3, 2010. This is a decrease in the number of filled full-time positions from 798 in April of this year. The following chart shows the number of filled full time positions in the department.



The department's cap positions did not change from January 2010 to June 2010. The cap number was set at 843. However, due to budgetary restrictions the department has been unable to fill those vacant positions.

Special Projects

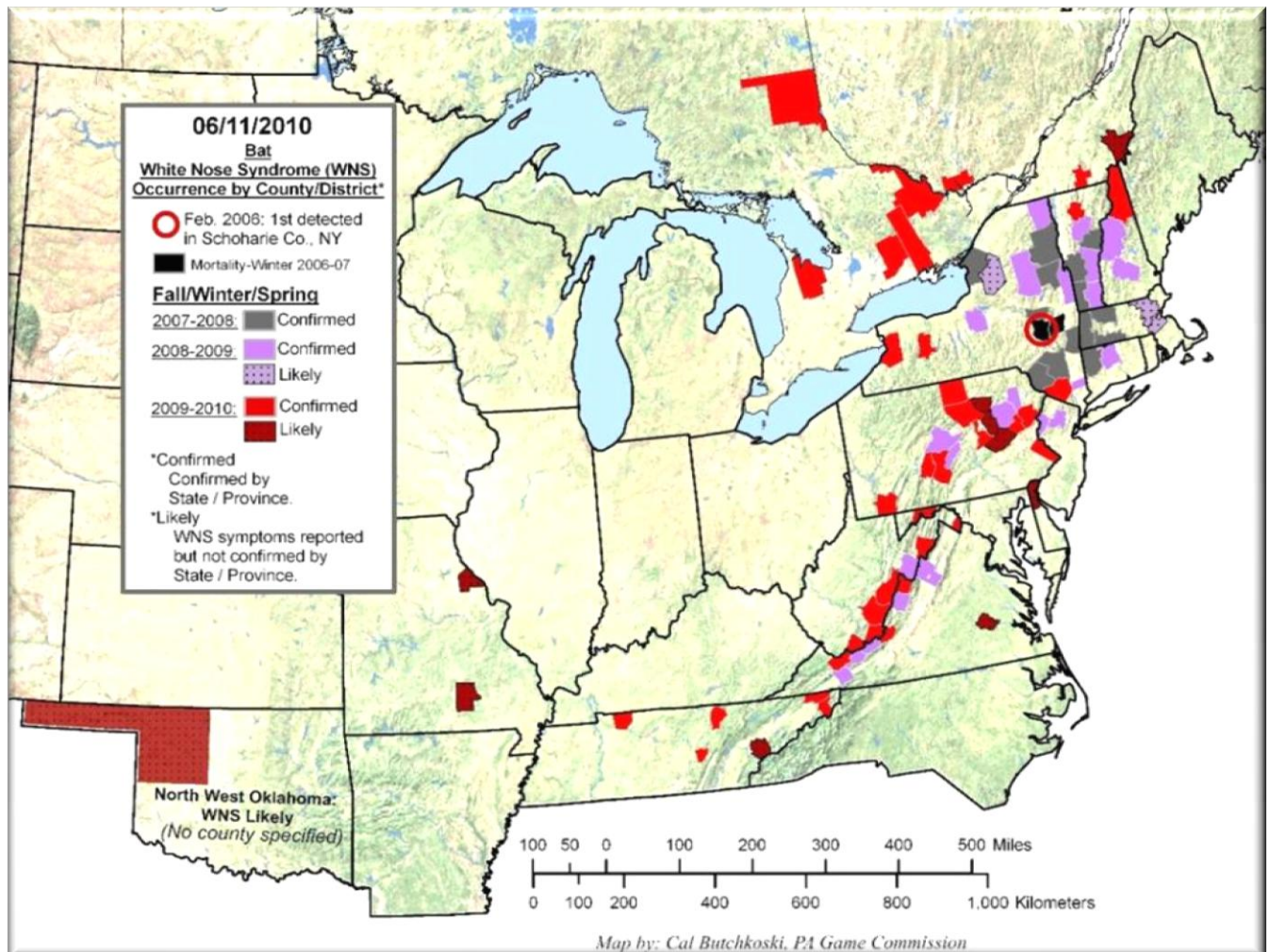
The Department for Natural Resources administers many special projects as part of the department's mission. These special projects either don't fit entirely into one program or the need development prior to being given to a specific agency. The remainder of this section is a list of these special programs and a brief discussion of each.

Indiana Bat Guidance and White Nose Syndrome

The Kentucky surface mining program within the Department for Natural Resources has employed procedures for the protection of the Indiana bat since 1995. Though the 2001 "Guidelines for the Development of Protection and Enhancement Plans for the Indiana Bat," were authored by the U.S. Fish and Wildlife Service (FWS), the Kentucky Department of Fish and Wildlife Resources and the Kentucky Department for Natural Resources, unresolved differences remained causing the coal applicant to perform duplicative and contradictory procedures for Indiana bat protection with the SMCRA and Clean Water Act permits. Due to varying bat protection requirements and measures utilized by the coal states and FWS field offices, requested the federal Office of Surface Mining to intervene and provide multi-state consistency on Indiana Bat protection and enhancement plans. With the assistance of the Interstate Mining Compact Commission, FWS and OSM, the 2009 guidelines were created by the Kentucky Department for Natural Resources and West Virginia Department for Environmental Protection and implemented in October 2009. Training was provided to DMP reviewers and the coal industry.

To compound the problems for the Indiana Bat and other bats in surrounding states a fungus was discovered in 2006 by a caver that noticed a white substance on the nose of hibernating bats and

other bats with the same coating dead on the cave floor. This discovery was the beginning of the studies of White Nose Syndrome. Affected bats usually have white fungus on their muzzles and other parts of their bodies. They frequently lack adequate body fat to survive until spring. These bats may exhibit uncharacteristic behavior such as moving to cold parts of the hibernaculum, and flying during the day and during cold winter weather when the insects they feed upon are not available. These activities weaken bats and causes death. In some hibernaculum there have been 90 to 100 percent mortality rates. The following map shows the distribution of White Nose Syndrome.



Wetlands Working Group

Historically people viewed wetlands as a nuisance. This was especially true of framers who viewed wetlands as a land that, after drained, could be used for valuable farmland. Draining was then pursued and achieved by the use of logs, rocks, or clay tiles. The Wetlands Working Group is dedicated to restoration of those drained wetlands as well as the promotion of wetland creation throughout the Commonwealth. This is a joint venture between the Kentucky Department for Natural Resources, The Federal Department for Fish and Wildlife, and other state and federal agencies. The Department for Natural Resources has worked with the group in hopes of establishing wetland creation on mine sites as well as on haul roads and other areas impacted by forestry activities. Department representatives have attended meetings and trainings as part of promoting wetland creation on mine sites and forestry impacted areas. The pictures below show wetland construction and finished wetlands.



Wetland construction using an excavator.



Excavator inserting debris.



Forested wetland



Ridgetop wetland

These constructed wetlands have been created using clay soils removed from the site as well as synthetic liners. These multipurpose wetlands can be used for sediment control on mine sites as well as an obstruction on abandon timber harvesting haul roads.

Fill Placement Optimization Process

The definition of approximate original contour, as found in the Surface Mining Control and Reclamation Act of 1977 (SMCRA), requires that the final configuration, after backfilling and grading, must closely resemble the general configuration of the land prior to mining while maintaining the necessary flexibility to accommodate site specific conditions. A surface coal mining operation must meet not only AOC standards, but also satisfy numerous other requirements including stability, access, and environmental provisions such as drainage, erosion and sediment control that influence the determination of AOC. Other factors that affect configuration are the diversity of the terrain, climate, biological, chemical and other physical conditions in the area and tier impacts on fish, wildlife, and related environmental values.

An objective and well-defined method for determining post-mining land configuration is necessary to assure compliance with applicable laws, provide an opportunity for early coordinated regulatory review, allow for meaningful and timely public input, and facilitate transparent decision-making.

The “Fill Placement Optimization Process” (FPOP) maximizes the amount of mine spoil returned to the mined area while minimizing the amount of mine spoil placed in excess spoil disposal sites, e.g., valley fills. This, in turn, minimizes impacts to aquatic and terrestrial habitats by ensuring compliance with environmental performance standards imposed by regulations.

This method accomplishes the following objectives:

- Provides a process for achieving AOC while ensuring stability of backfill material and minimization of stream impact.
- Determines a reasonable quantity of excess spoil that may be placed in excess spoil disposal sites such as valley fills and head of hollow fills.
- Optimizes the placement of spoil to reduce watershed impacts.
- Provide a structured process for use in permit reviews and field inspections.
- Maintain the flexibility necessary for the operator to address site-specific mining and reclamation conditions.
- Establishes a permit area tolerance linked to triggers, reducing over-permitting and consequently preserving stream impact minimization throughout the life of the mine.

FPOP is currently being used by companies submitting requests to the Army Corp of Engineers for 404 permit approval.

Cumulative Hydrologic Impact Assessment

The Kentucky Department for Natural Resources (DNR) is revising its approach to Cumulative Hydrologic Impact Assessment (CHIA) process for each proposed coal mining operation. The CHIA is a required decision document that gauges the effects of a proposed mining operation on the hydrologic balance of an entire specified watershed.

The former Kentucky Department for Surface Mining Reclamation and Enforcement (DSMRE) developed a Cumulative Hydrologic Impact Assessment (CHIA) process in the early 1980s for the major watersheds within the Kentucky coalfields. Data was collected from USGS monitoring stations that were in close proximity to points of municipal water withdrawals. The CHIA was based on existing water quality data for sulfates and total dissolved solids (TDS), considered the extent and rate of previous mining in the watershed and made predictions of future water quality based on coal demand trends.

Due to changes in environmental water quality standards and increased scrutiny by state and federal agencies regarding the effects of coal mining on stream systems, DNR created an ad-hoc committee, comprised of representatives from the federal OSM, EPA, U.S. Corps of Engineers, Kentucky Division of Water, environmental groups and the coal industry. This committee provided input on the components to be addressed and best format applicable to the CHIA decision document.

One important aspect of this CHIA revision is a change in the scale at which impacts are viewed, from river basins or sub-basins to watershed-scale impacts. To evaluate watershed impacts, it is necessary to review data from past, present and anticipated coal mining permits. Each permit application contains baseline surface and ground water data, during mining water quality results and continued monitoring through bond release. Unfortunately, most of the past 35 years of data exists only on paper; to conduct trend and modeling analyses, an electronic format is required.

DNR is in the process of identifying and ground “truthing” 237 trend stations in the eastern Kentucky coalfield and 37 trend stations in the western Kentucky coalfield. The parameters tested will include the standard regulatory monitoring requirements and will also include parameters of concern, (e.g., selenium, aluminum and magnesium), that may be associated with mining operations. This monitoring network will not only measure the cumulative effects of coal mining in the state but also provide water quality data to water quality agencies and coal industry stakeholders.

Underground Injection Control Primacy

The Department for Natural Resources is seeking primary responsibility for administration of the Class II-Underground Injection Well Program in Kentucky from EPA - Region 4 under section 1425 of the Safe Water Drinking Act. EPA began implementing the Class II-UIC program in June 1984 to protect underground sources of drinking water from contamination by injection activities by regulating the construction, operation, permitting and plugging/abandonment of injection wells. Currently, there are approximately 3,420 Class II wells in the Commonwealth of Kentucky.

The department prepared the authorization package and sent it to the EPA Region 4. The authorization package was received by the Region 4 office Sept 22, 2010. The EPA office has 90 days to review the package and issue a formal decision on authorization.

2010 Commissioner's Reclamation Awards

In 1997, the DMRE launched an effort to formally recognize the outstanding level of reclamation being achieved by the Kentucky mining industry. The Commissioner's Award for Excellence in Reclamation is given each year to companies that have distinguished themselves through their outstanding reclamation in three categories: coal mining, noncoal mining and abandoned mine land reclamation projects.

The winners of the Commissioner's Award for Excellence in Reclamation for 2010 are:

Alden Resources for outstanding reclamation work on their surface facility located in Whitley County near the community of Loudon. The site is a 24.9-acre surface mine operation that began in 2009. Following coal removal, the area was backfilled, graded and seeded to achieve Phase I bond release in April 2010. Mining on the Blue Gem and Little Blue Gem seams prior to the Surface Mining Control and Reclamation Act (SMCRA) of 1977 left a dangerous highwall and an orphan mine bench on the site. As a result of Alden Resources reclamation efforts, the highwall was completely removed and the terrain is now in a more usable condition. The post-mining land use of grassland, capable of supporting grazing cattle, was agreed upon by the coal company and the landowners prior to mining.



Enterprise Coal for outstanding reclamation work on their surface facility located in Knott County near the community of Amburgey. Enterprise used efficient techniques when mining and reclaiming the site. Enterprise mined multiple coal seams simultaneously so that future disturbances in the watershed would be minimal, nutrient-rich topsoil was “banked” for later use in reclamation and seeded to ensure against loss due to erosion, and used water runoff control techniques that were extremely effective in preventing erosion and excessive siltation of the watersheds and streams. They also shared roads, ponds and hollowfills with an adjoining mining operation to minimize disturbance. As a result of Enterprise Mining Company's reclamation efforts, the landowner's wish for pastureland as the post mining land use has been achieved. The site will provide opportunities for grazing, recreation and development once Phase III bond release is granted.



B & W Resources for outstanding reclamation work on their surface facility located in Clay County near the community of Garrard. This site was nominated because of the company's exceptional work and their commitment to the environment. The site initially had experienced a number of violations concerning water quality, disposal of coal processing waste, backfilling/grading and off-permit disturbance before changing ownership. Under new ownership and hard work the site was reclaimed to a state that made it eligible to receive this award.



Labco LLC for outstanding reclamation work on their surface facility located in Pike County, near the community of Elkhorn City. This mining facility is a surface area and re-mining operation. The permit was originally approved with hollowfills, but LABCO did not use them. As a result, no streams were impacted in the mining process. LABCO LLC is establishing a diverse and permanent vegetative cover with the planting of grasses - orchard-grass, timothy and redtop grasses – and several legumes species. The landowner is establishing fish and wildlife habitat as the post-mining land use with an emphasis on creating bat habitat. The establishment

of tree species with exfoliating bark has been incorporated into the reclamation plan for the protection of the Indiana Bat, as well as providing cover for other wildlife.



Dyson Creek Coal for outstanding reclamation work on a surface facility located in Webster and Union counties, near the community of Wheatcroft. Dyson Creek Coal Co. was hired to reclaim the mine site that had been abandoned due to bankruptcy of another coal company in 2003. Dyson began this project in 2004 and finished the project in May of this year. Dyson removed all structures including concrete silos, re-established silt control and reclaimed a 400-acre refuse fill and adjacent slurry impoundment. Although the contract required 24 inches of topsoil covering all areas, Dyson placed 48 inches of topsoil on 450 acres at no additional cost to the Commonwealth. While Dyson's contract required seeding areas only once, they consistently reseeded large and small areas as needed. As a result of Dyson Creek Coal Co.'s reclamation efforts, the area now functions as cropland, pastureland, and fish and wildlife habitat.



Kentucky Mine Mapping Information System

The Mine Map Information Center has for more than 30 years operated the Mine Map Repository for the Office of Mine Safety and Licensing (OMSL). This program is sponsored by the University of Kentucky Center for Applied Energy Research in coordination with the Office of Surface Mining's (OSM) Mine Map Repository in Pittsburgh and is operated out of the facilities of the OMSL.

Currently the office has more than 175,000 paper coal mine maps on file and 183,000 mine records in the corresponding database. The maps range in date from 1948 to present, while the data spans 1884 to present. A fire in 1948 destroyed 30,000+ mine maps, but many have been replaced over the years. A few old maps prior to 1948 are still on file.

The Kentucky Geological Survey, in cooperation with the U.S. Office of Surface Mining and the Kentucky Department for Surface Mining Reclamation and Enforcement initiated a meeting on Sept. 20, 2001. The meeting was held to discuss the administrative, legal, technical, and financial aspects for developing a comprehensive mine mapping system. Subsequent to this meeting, there was a follow-up meeting on Jan. 7, 2002 to discuss the concept of a mine mapping system. Agencies involved in the initial two meetings included: U.S. Office of Surface Mining, U.S. Army Corp of Engineers, U.S. Bureau of Land Management, U.S. Mine Safety and Health Administration, Kentucky Department of Surface Mining Reclamation and Enforcement, Kentucky Department of Fish and Wildlife, Governor's Office for Technology, Kentucky Transportation Cabinet, Kentucky Geological Survey, Kentucky Department of Insurance, Kentucky Revenue Cabinet, and Virginia Department of Mining.

Outcomes from this meeting included the formation of two teams, technical and legal. These teams were charged with developing feasibility strategies for the development of a mine mapping system. The Mine Mapping Information System project officially started in March 2002.

The technical team began to determine strategies for improving the sharing and accessing of mine related information for more effective risk mitigation purposes and emergency response purposes. Strategies included both short-term and long-term goals. The technical team recognized that the agencies collect some of the same data and that reducing the duplication efforts would be beneficial. Accuracy of mine data was a priority.

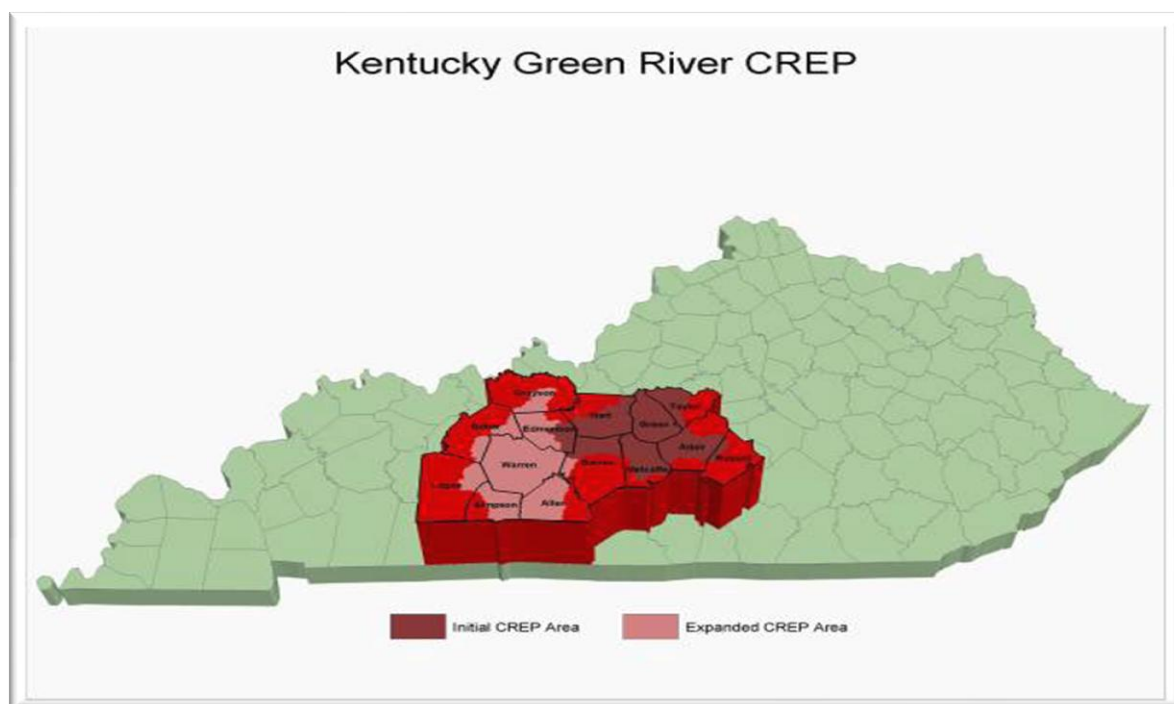
Initial endeavors by the legal team included reviewing the current statutes and agencies' policies for releasing mine related information to government agencies and the public, as well as determining what should be done to improve the access and release of information. The legal team was also responsible for researching legal related questions/issues from the technical team.

The efforts of the Mine Mapping Information System team led to receiving the Best of Kentucky Technology Award in the Best Online Services category at the Kentucky Digital Government Summit.

Green River Conservation Reserve Enhancement Program (CREP)

The Green River is the most biologically diverse branch of the Ohio River system. The greatest aquatic diversity occurs in a 100-mile section of unhindered river that flows from the Green River reservoir dam through Mammoth Cave National Park in south-central Kentucky. This section of the Green River watershed includes 917,197 acres in the counties of Adair, Barren, Edmonson, Green, Hart, Metcalfe, Russell and Taylor. Data indicates that agricultural runoff contributes high levels of sediment, nutrients, pesticides and pathogens to the Green River and Mammoth Cave systems. There are currently seven species listed as endangered by the U.S. Fish and Wildlife Service in the Green River system. In addition, the project area also includes several ecosystems recognized as endangered ecosystems of the United States, including native prairies, hardwood savannahs, canebrakes and old-growth deciduous forest.

On Aug. 29, 2001, the U.S. Department of Agriculture and the Commonwealth of Kentucky agreed to implement a Conservation Reserve Enhancement Program (CREP) on the above-referenced section of the Green River to restore up to 100,000 acres. The Kentucky Department of Fish and Wildlife Resources (KDFWR) is a contributor, offering wildlife biologists and cost-shared positions with the Natural Resources Conservation Service (NRCS) to assist landowners and promote the program to enhance participation in CREP. The Kentucky Division of Conservation was designated as the state administrative contact agency for Green River CREP and distributes state cost share and incentive payments to landowners. The Kentucky Chapter of the Nature Conservancy is also a contributor, offering permanent easements to landowners in select counties in addition to CREP contracts and offering public relations and best management practices implementation assistance.



In late 2006, a proposal for an amendment to the Green River CREP was submitted to USDA. This proposal sought to expand the CREP region approximately 30 river miles to include environmentally significant watersheds downstream of the original project area and to utilize the community-based approach to more effectively protect locally unique resources and provide better service to the local landowners. The proposed addition included all or parts of Allen, Barren, Butler, Edmonson, Grayson, Logan, Simpson and Warren counties.

In federal fiscal year 2009 19,889.7 acres (571 individual contracts) were put into conservation practices within the region. This brings the cumulative total acreage to 101,303.4, thus bringing to a close this chapter in the Green River CREP, as the 100,000 acre limitation has been achieved.



Brush Spring flowing into the Green River. Photo courtesy of The Nature Conservancy.

The chart below shows the total acreage and the associated counties.

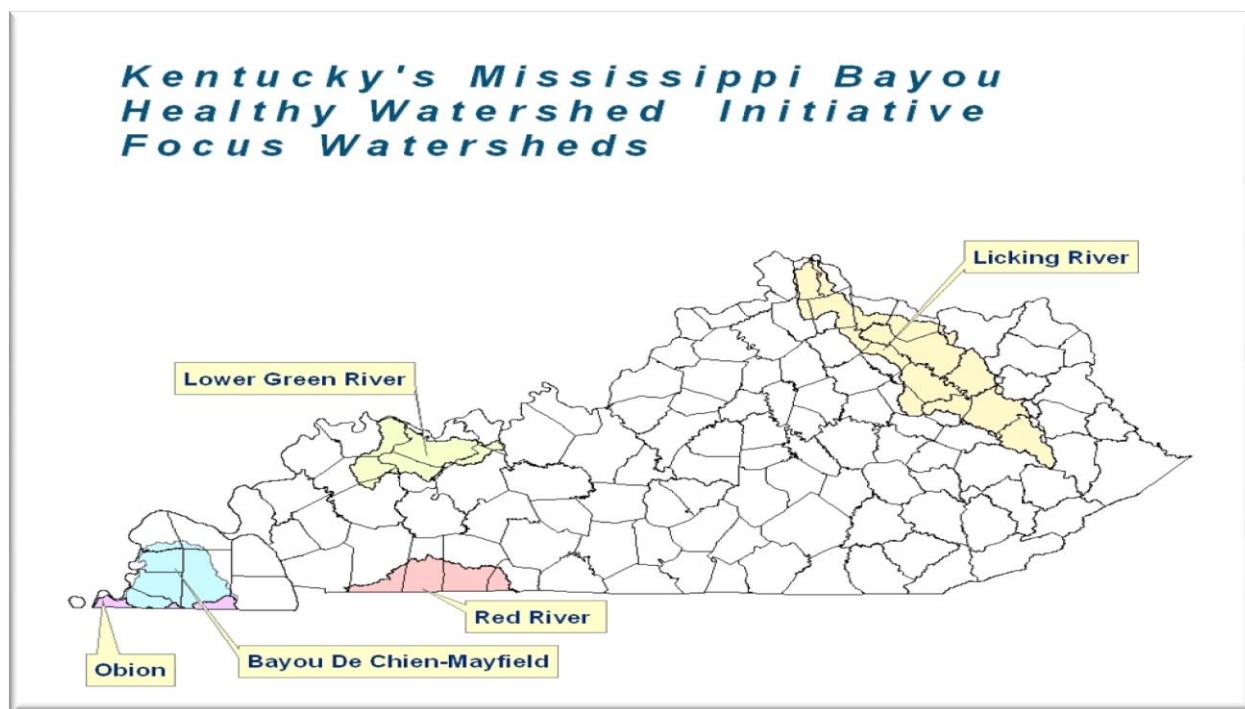
County	TOTAL ACREAGE BY FEDERAL FISCAL YEAR									
ORIGINAL AREA	2002	2003	2004	2005	2006	2007	2008	2009	2010	Cumulative Total
Adair	4	16	199	693	326	245	3,895	1,740	329	7,448
Barren	606	1,012	609	113	155	151	1,970	630	45	5,290
Edmonson	130	16	0	0	45	90	4,588	951	284	6,104
Green	126	461	699	700	533	427	9,154	1,437	293	13,830
Hart	562	383	219	136	480	1,772	8,750	2,634	363	15,298
Metcalfe	49	71	218	231	0	145	4,592	443	0	5,749
Russell	0	0	0	0	23	25	480	659	49	1,236
Taylor	541	558	152	115	168	575	798	680	271	3,857
EXPANSION AREA										
Allen	Program Not Available					0	4,852	2,424	0	7,276
Butler						0	3,806	231	0	4,037
Grayson						0	840	352	0	1,192
Logan						0	8,439	643	0	9,082
Simpson						73	2,083	445	154	2,756
Warren						3	13,314	3,846	987	18,150
TOTALS	2,018	2,517	2,096	1,987	1,730	3,505	67,561	17,114	2,775	101,303

Mississippi River Basin Initiative (MRBI)

The MRBI will continue the great partnership that the CREP program created. Funding of this project would target application of conservation within 12 digit hydrologic units in the Green River Basin, Licking River Watershed, and the Mayfield Creek-Bayou de Chein. Over 15 partnering organization including commodity groups, federal agencies, state agencies,

environmental and educational organizations have joined forces to plan and support this project. All entities involved are committed to achieving five specific goals:

- Implementing focused conservation practices in the targeted watersheds;
- Expanding and improving landowner education, participation, and cooperation in applying soil and water conservation practices;
- Enhancing landowner involvement in long-term land planning efforts through the development of nutrient management plans and Kentucky agriculture water quality plans;
- Strengthening the partnerships between the organization and agencies involved so that the relationships built during this four year effort will extend beyond the MRBI timeframe; and
- Providing monitoring and project accountability to show that NRCS conservation practices can directly improve water quality by reducing nutrients, soil erosion and stream sedimentation.



Fly-rock Blasting Policy

“Fly-rock is defined as blasted material cast into the air, or traveling along the ground, that is cast from the blasting site more than half the distance to the nearest dwelling, public building, school, church; commercial, community or institutional building; or any occupied structure; or is cast beyond the permit boundary.” A fly-rock event is very dangerous, and possibly deadly, and can happen when blasting protocols are not followed.

Reclamation Advisory Memorandum (RAM) 140 was developed in July 2008 by the department to encourage blasters to follow proper procedures to curb the occurrences of these dangerous events. In February and March of 2009 the department issued additional protocols regarding enforcement of the fly-rock provisions developed in RAM 140. These additional enforcement

protocols address enforcement actions, assessment procedures, optional blaster license suspensions, and the impact of patterns of violations.

Federally Mandated Mine Safety Visits

A court case presented before the United States Court of Appeal for the District of Columbia Circuit Court argued that the Mine Safety and Health Administration (MSHA) was not fully complying with the intent of Congress in its implementation of the Mine Improvement and New Emergency Response Act (MINER ACT), which was enacted in 2006. MSHA allowed certain provisions for the unique mine rescue situation in Kentucky. MSHA specifically allowed:

- Certain rescue teams to meet the requirements by training at small mines annually rather than semi-annually;
- State employees on mine rescue teams to fulfill their obligations with participation in only one mine rescue contest per year rather than two a year; and
- State employees on mine rescue teams could fulfill their obligations for competing in mine rescue contest by merely being a contest judge once a year.

The U.S. Court of Appeals ruled in favor of the complainant. On June 17, 2009, MSHA published a revised final rule to comply with the U.S. Court of Appeals ruling. As part of the revision, Kentucky mine rescue teams were required to complete the annual visits for the mines our teams provide signature mine rescue coverage. This includes:

- For large mines (36+ employees) one mine rescue team to complete one visit per year; and
- For small mines (35 employees or less) two mine rescue teams and each team must complete two visits per year

To date, the OMSL mine rescue teams met the required federal mandate by completing 357 mine rescue visits.

Heritage Land Conservation Fund Acreage

The Kentucky Heritage Conservation Land Fund was established in 1990 by legislative action. This fund is the primary source of the state funding for the purchase of natural areas and is committed to protecting and conserving the Commonwealth's precious natural areas for enjoyment by this and future generations.

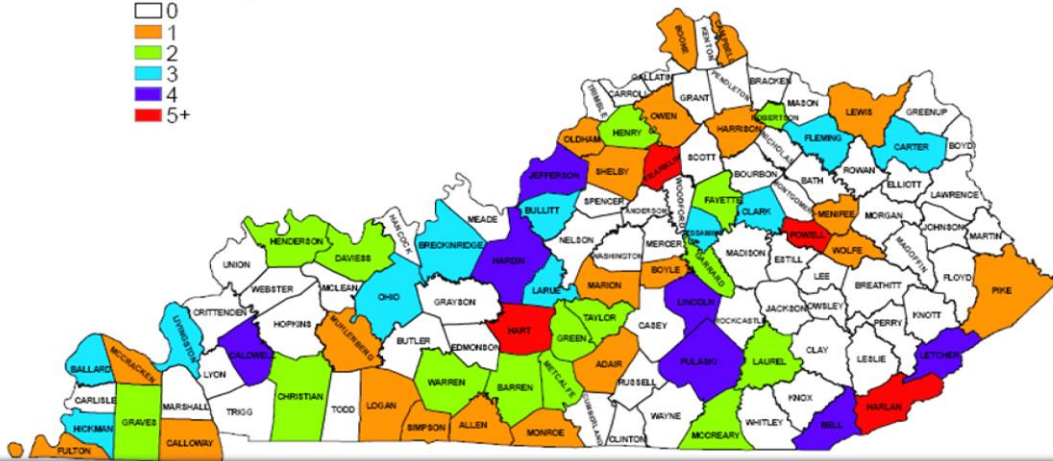
The HLCF has been purchasing properties since its beginning in 1990. The following image gives the number of those purchased properties since the beginning of the fund.

KENTUCKY HERITAGE LAND CONSERVATION FUND

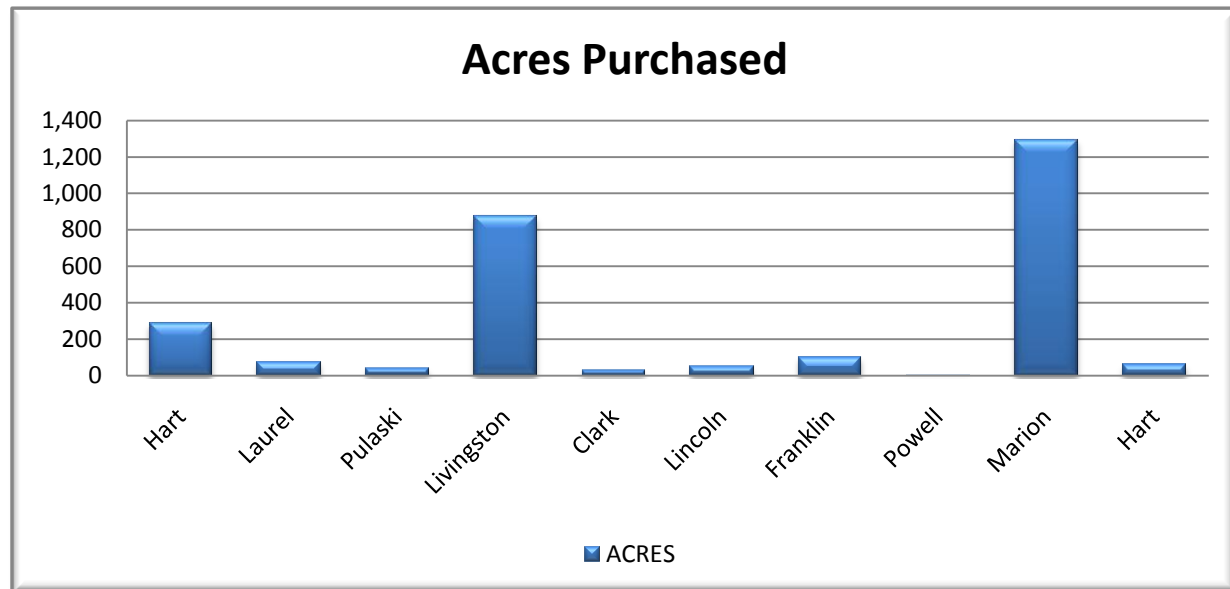
Purchased Projects

June 30, 2010

Number of Purchased Projects
in each County



During Fiscal Year 2010 HLCF was responsible for conserving, in whole or in part, 2,805 total acres in six different counties. The following graph shows the distribution and acreage of those properties purchased in FY 2010.



Forests Without Borders Arbor Day Celebration

On Friday, April 30, 2010, more than 100 students and their teachers from Arlie Boggs Elementary in Letcher County, Ky. and Appalachia Elementary in Wise County, Va. planted more than 1,000 native hardwood seedlings and wetland plants to promote reforestation and wetland creation on mined lands. The event was hosted by the Cumberland River Coal Co. on its surface coal mining operation located on the Kentucky-Virginia state line. The Virginia

Mining Association, a strong supporter of the reforestation initiative, hosted an art contest and provided t-shirts for all the students. Representatives from the Kentucky Energy and Environment Cabinet (EEC), the U. S. Office of Surface Mining, the Kentucky Department for Natural Resources (DNR), the Virginia Department of Mines, Minerals and Energy and the Appalachian Regional Reforestation Initiative organized and participated in the event.

Tree species planted included blight-resistant American chestnut, red oak, black walnut, yellow poplar, green ash and red maple. Mini-workshops led by Tom Biebighauser of the U.S. Forest Service focused on establishing forested wetlands and provided participants an introduction in creating wetlands on mined lands. The students planted a large number of native wetland plants provided by the Kentucky Department of Fish and Wildlife Resources around several wetland areas on the site.

Reforestation of previously mined lands has been strongly encouraged in Kentucky since 1995 when DNR and the University of Kentucky began researching and promoting it as a viable post-mining land use. Minimizing or eliminating soil compaction during reclamation as per the Forestry Reclamation Approach (FRA) guidelines can result in greater tree growth and survival rates than many virgin forest soils.



Children from Arlie Boggs Elementary plant trees in uncompact soil.

Excitement, enthusiasm and energy from the students combined with a perfect spring day made the first interstate Arbor Day a memorable event for all participants. Cumberland River Coal had staked the line dividing Kentucky and Virginia so that students stepped from one state to the other while planting their seedlings.



Deputy Secretary Hank List presents the award to ICG representatives: Roger Mason, Alan Ashley, and Don Gibson.

Larry Arnett, deputy commissioner of DNR presented the 2009 Kentucky ARRI Award to International Coal Group (ICG) East Kentucky LLC, for their Peel Poplar facility located near Ransom in Pike County. ICG has become a strong advocate of FRA in their reclamation efforts. In 2008, they began collaborative work with the University of Kentucky in a research project to determine the implications for use of this reclamation approach on long, steep slopes.

Department for Natural Resources National Awards

Abandoned Mine Lands

Division of Abandoned Mine Lands (AML) Director Steve Hohmann was named the recipient of the 2009 Stan Barnard Memorial Award, the highest honor of the National Association of Abandoned Mine Land Programs (NAAML). The award is bestowed upon individuals who exhibit qualities of dedication, commitment and hard work toward the enhancement of the association.



“It has been most gratifying and humbling to receive recognition from my peers. I am very proud of our Kentucky AML staff. This award belongs to all of us,” said Hohmann.

For the past 14 years, Hohmann has led Kentucky’s program to receive two national awards for reclamation excellence and has worked diligently to promote various issues pertaining to AML.

Hohmann also recently received a Commonwealth of Kentucky legislative citation from Kentucky House of Representatives Majority Leader Rocky Adkins for his achievement.

Forestry

Leah MacSwords received the Sustained Excellence Award at the 86th Annual National Association of State Foresters meeting in Albuquerque, New Mexico. The award was presented by Bob Simpson, Senior Vice President, Forestry, at the American Forest Foundation. This recognition, in the form of an annual award, honors state foresters who have been strong advocates and supporters for the American Tree Farm System (ATFS), a program of the American Forest Foundation.



MacSwords has served as the director of the Kentucky Division of Forestry for the past eight years. Throughout her tenure, she has been a strong and adamant supporter of the Kentucky Tree Farm Program, maintaining support for Tree Farm through her division that handles more than 95 percent of the state’s Tree Farm re-inspections. The division also includes the tree farm display and information at numerous field days conducted throughout the year that involves cooperating with a number of agencies. The division helps to distribute tree farm information during the annual Kentucky Wood Expo and at the Kentucky Forest Industries Association annual meeting.

MacSwords is past head of the Southern State Foresters group and past president of the National Association of State Foresters where she continues to promote support for the tree farm program to her colleagues throughout the United States.

Acknowledgement

Cabinet Secretary: Leonard K. Peters

Deputy Secretary: Hank List

This first departmental annual report is intended to provide information to the general public in order to provide a base line for measurable tracking in future reports. The department welcomes any comments or questions regarding this report. Please direct your questions or comments to the contacts below.

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Commissioner: Carl Campbell

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The department would like to acknowledge the following directors for their efforts in assembling this report:

Division of Mine Permits:	Allen Luttrell
Division of Abandoned Mine Lands:	Steve Hohmann
Division of Mine Reclamation and Enforcement:	Jim Dickinson
Office of Mine Safety and Licensing:	Johnny Greene
Division of Forestry:	Leah MacSwords
Division of Oil and Gas:	Kim Collings
Division of Conservation:	Steve Coleman
Division of Technical and Administrative Support:	Leo Miller

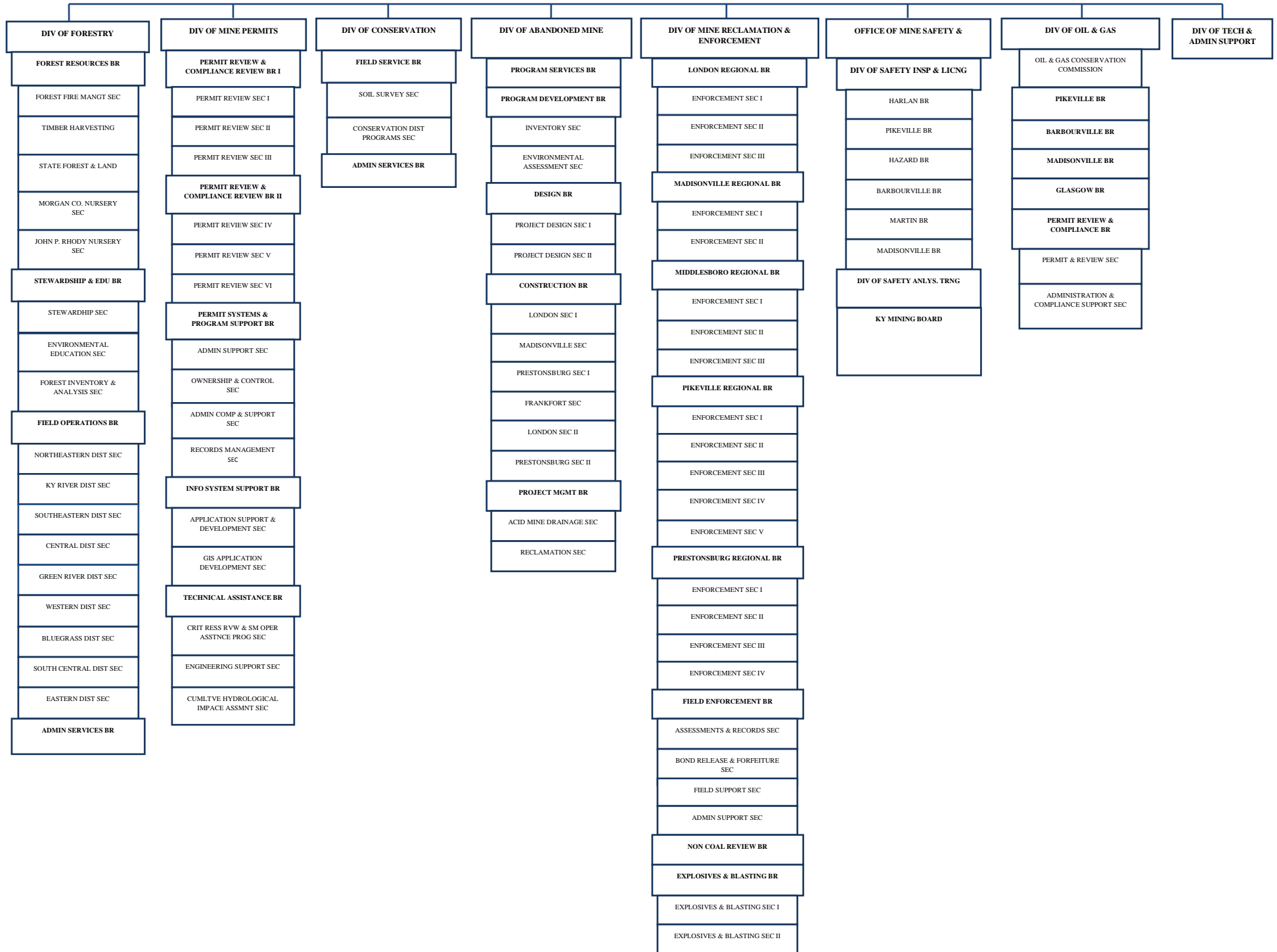
Compiled by: Michael Mullins

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DEPARTMENT FOR NATURAL RESOURCES



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Photo by J Hamon

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